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POWER BY THE NUMBERS:
CONGRESSIONAL LINE ITEM BUDGETING

by

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Congressional micromanagement of the defense budget is a crucial element of the struggle between the legislative and executive branches to shape military spending. By altering presidential funding requests, Congress can impose its own preferences on the defense budget, and thus guide the restructuring of U.S. armed forces. Congressional micromanagement has drawn enormous criticism from academics and Department of Defense officials.

This thesis uses documents provided by the DOD Comptroller to conduct two studies. The first is a multi year (FY 1989-1994) analysis of the procurement account, to examine how the end of the Cold-War affected micromanagement. The second study examines all defense budget categories for one year (FY1994) to compare micromanagement between accounts. This thesis argues that the percentage of budget line items for procurement altered by congressional appropriators remained nearly constant (20 to 23 percent) from FY 1989-1994. Congress subtracted from more line items that it added to, however line item subtractions were smaller on average than additions. A cross service analysis revealed no particular service or procurement programs as the prime target of Congressional micromanagement. The single year cross sectional analysis revealed that activity in DoD procurement is indicative of legislative change in operations and research accounts, but not in construction and housing.

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Power by the Numbers: Congressional Line Item Management

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ABSTRACT

Congressional micromanagement of the defense budget is a crucial element of the struggle between the legislative and executive branches to shape military spending. By altering presidential funding requests, Congress can impose its own preferences on the defense budget, and thereby help guide the restructuring of U.S. armed forces. Congressional micromanagement has drawn enormous criticism from academics and Department of Defense official. Yet, for all its criticism, surprisingly little empirical research has been conducted on the number and magnitude of program funding changes appropriated by Congress.

This thesis uses budgeting documents provided by the Comptroller of the Department of Defense to conduct two related studies. The first is a multi year (Fiscal Years 1989-1994) trend analysis of one account, procurement, which examines how the end of the Cold-War has affected micromanagement by congressional appropriators. The second study examines all defense budget categories for one representative year (FY1994) to compare the amount of micromanagement in procurement with that of other accounts. Taken together, these studies answer four questions crucial to the issue of micromanagement: (1) what percentage of procurement funding requests are altered in congressional appropriations, and how has that percentage changed with the collapse of the Soviet threat; (2) how big are the cuts -- and additions -- made by the appropriators to the president's request; (3) whether the House or the Senate is more dominant in

shaping the final appropriations bill; and (4) which of the armed services and elements of the defense budget are subjected to the greatest micromanagement?

This thesis argues that despite the end of the Cold War, the percentage of budget line items for procurement (i.e. weapons production) altered by congressional appropriators remained nearly constant from FY 1989-1994. In the six year analyzed, the percentage of procurement line items changed by congressional appropriators was between 20 to 23 percent. Measured in dollars, Congress never changed more than 27 percent of the total spending in the president's finding request. Congress subtracted from more line items that it added to, however line item subtractions were smaller \on average (42 million dollars) than additions (63 million dollars). This thesis also found that Senate changes to individual line items were more likely to be retained in the final appropriations bill than were House changes. However, when averaged, line item changes proposed by the House were closer to the final conference average than those proposed in the Senate. A cross service analysis of defense appropriations line item budgeting revealed no particular service as the prime target of Congressional micromanagement, nor were any specific procurement programs within the services targeted above other programs. Finally, the single year cross sectional analysis revealed that the activity in the DoD procurement account is indicative of legislative change in the operations and research accounts, but not in construction and housing.

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Congressional micromanagement of the defense budget is a crucial element of the struggle between the legislative and executive branches to shape military spending. By altering presidential funding requests, Congress can impose its own preferences on the defense budget and, thereby, help guide the restructuring of U.S. armed forces. Congressional micromanagement has drawn enormous criticism from academics and defense department officials. Yet, for all its criticism, surprisingly little empirical research has been conducted on the number and magnitude of program funding changes appropriated by Congress.

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A cross service analysis of defense appropriations line item budgeting revealed no particular service as the prime target of Congressional micromanagement, nor were any specific procurement programs within the services targeted above other programs. Finally, the single year cross sectional analysis revealed that the activity in the DoD procurement account is indicative of legislative change in the operations and research accounts, but not in construction and housing. Additionally, there is very little cohesion between the various defense oversight committees other than the fact that appropriators do tend to stay within the limits set by the authorization bill. Appropriators are also much more active overall and tend to cut from budget requests more frequently than authorizers.

I. INTRODUCTION

Congressional micromanagement of the defense budget is a crucial element of the struggle between the legislative and executive branches to shape military spending. By altering the specific program funding requests made by the president, Congress can impose its own detailed preferences on the defense budget and, thereby, help guide the restructuring of U.S. armed forces for the post-Cold War era. This congressional micromanagement has drawn enormous criticism from academics and defense department officials, who attack it as an inappropriate legislative power grab that disrupts and distorts the military's budgeting process. Yet for all this criticism, surprisingly little empirical research has been conducted on the actual number and magnitude of program funding changes made by Congress. This lack of research is particularly true of the funding ultimately appropriated (and not merely authorized) for defense. Moreover, while many academics argue that congressional micromanagement is driven by the desire to create weapons production jobs for constituents, no study has focused on micromanagement of the procurement (i.e., weapons production) account by comparing the amount of micromanagement in that account with other defense budget categories. Nor have previous studies examined variations in the amount of micromanagement directed at the appropriations for the Army, Air Force, Navy and Marine Corps.

This thesis uses budgeting documents provided by the Comptroller of the Department of Defense to conduct two related studies. The first is a multi-year (FYs 1989-1994) trend analysis of one account, procurement, which examines how the end of the Cold War has affected micromanagement by congressional appropriators. The second study examines all defense budget categories for one representative year (FY 1994) to compare the amount of micromanagement in procurement with that of other accounts. Taken together, these studies answer four questions crucial to the issue of micromanagement: (1) what percentage of procurement funding requests are altered in congressional appropriations and how has that percentage changed with the collapse of the Soviet threat; (2) how big are the cuts - and additions - made by appropriators to the president's request; (3) which chamber, the House or the Senate, is more dominant in shaping the final appropriations bill; and (4) which of the armed services or program elements within the defense budget are subjected to the greatest micromanagement?

This thesis argues that despite the end of the Cold War, the percentage of budget line-items for procurement altered by congressional appropriators has remained nearly constant from FY 1989 to FY 1994. In the six years analyzed, the percentage of procurement line-items changed by congressional appropriators showed little variation, ranging from between 20 to 23 percent over that period. If the change relationships between procurement and two other accounts, operations and research, observed during the cross sectional analysis of the FY 1994 are indicative of standard patterns, then very few of the budget changes made by legislators over the last six years are atypical. Measured in dollars, Congress never changed more than 27 percent of the total spending

in the president's procurement request. The highs were achieved in FY 1990 and 1991 when congressional dissatisfaction with the president's request was especially intense. Of the line-item changes made, appropriators cut program requests more often than they increased funding. However, line-item subtractions were smaller in size ($42 million on average) than were additions ($63 million on average). This study also finds that in four of the six years sampled, individual Senate Defense Appropriations Subcommittee line-item changes were more likely to be retained in the final bill than were House Appropriations changes. However, the House more often was closer to the procurement account's net dollar value average (in both additions and subtractions). Taken together these findings indicate that the final conference accepts, at face value, more Senate marks but on the whole strives to stay closer to House marks. Additionally, a cross-cut analysis of annual defense appropriations line-item budgeting reveals that no particular service or program element was the target of the Congressional micromanagement. Nor was any particular service or program singled out during FY 1994's cross-sectional study. Congress changes roughly 21% of the line-items submitted each year in the president's procurement budget request, procurement equates to about 33% of the whole DoD budget. The net fiscal effects of the changes are small, only about $1.8 billion dollars decrease in a $280 billion dollar budget in $1994

II. THE ISSUE OF MICROMANAGEMENT

When critics attack Congress for micromanaging defense, that charge usually includes a multitude of sins: requiring the Department of Defense to submit numerous (and nonsensical) reports, demanding too much testimony from DoD witnesses at legislative hearings, or a variety of other congressional dictates. However, the element of micromanagement that is most significant for defense budgeting is the congressional penchant for altering "line-items" in the president's budget request; that is, for making specific changes to the funding proposals of individual programs listed in the request. The growth of this form of micromanagement emerged in part due to the larger, post-Vietnam and post-Watergate effort by Congress to play a greater role in military policymaking. However, micromanagement also reflected the competition for budgetary influence between the authorizing committees and the appropriations committees (especially the House and Senate Defense Appropriations Subcommittees). In 1960 the Armed Services Committees began to apply the technique of annual authorizations to the procurement part of the defense budget and then continued to expand its application to other titles within the budget. (Kolodziej 1966, Stephens 1971, Art 1985a). Robert J. Art argues that

> Intercommittee rivalry (between the Armed Services and Defense Appropriations Subcommittees) and control over the Pentagon were the two political imperatives that drove the Armed Services Committee into ever more detailed reviews of the annual budget and away from what had been their pattern from 1945–1960, namely, a rather general look at the nation's defense policies through annual posture hearings. (Art, 1985a, 229)

Concurrent with Art's article, an extensive study of defense decision making procedures by the Senate Armed Services Committee (including three days of testimony on the Senate Floor by Senators Barry Goldwater (R–AZ) and Sam Nunn (D–GA)) heightened attention to the problem of micromanagement. Several articles later appeared castigating the failure of Congress to provide reasoned oversight and recommending extensive structural changes. (Crackel 1985, Higgs 1988, Art 1989, Owens 1991) A 1990 Defense Department White Paper epitomized the compiling of statistical facts attacking Congressional intrusion into defense policy planning. The common theme of these studies is that 'good oversight' requires constant vigilance of legislative goals and action primarily through strategic dialogue, and that congressional micromanagement of program spending is disruptive to coherent budgeting.

However, while normative criticism of micromanagement abounds, far less empirical work has been done to measure the actual amount of micromanagement. Only two studies and a handful of short articles in the Armed Forces Journal International actually carry out a detailed empirical study of Congressional micromanagement. The first study was an unpublished report by Robert Bledsoe that documented the combined number of line-item changes by the Armed Services and Defense Appropriations Subcommittees for fiscal years 1976-1983. The findings of the study indicate that Congress changed over 10,000 line-items within the defense budget during the eight years considered. (Art, 1985a, 234) The basis of what constitutes a line-item is crucial for evaluating the efficacy of Bledsoe's work, but his study remains unpublished and is not available. Line-item

definition is particularly true of changes to the construction portion of the budget request. This portion of the budget is composed of many small program sub-elements that must be individually reviewed, authorized, and appropriated in order for the defense comptroller to allocate funding. However both the construction budget and changes to it are insignificant in comparison to the bulk of the president's request. While commenting about the expansion in the scope of annual authorizations during the same period as Bledsoe's study, Barry Blechman noted that the one exception was military construction.

> (In the defense construction account)..."the armed services committees insisted on the right to authorize most individual construction projects. Construction, however, constituted only a tiny portion of defense spending and did not entail first-order decisions on defense policy and military strategy." (Blechman,1990, 30)

The increasing scope of Congressional authorizations and appropriations and its effect on the increase in the number of line-item changes to the defense request is another problem often overlooked by Congressional critics. Every empirically oriented Congressional micromanagement study comments on the dramatic increase in the annual number of line-items changed (Art 1985 and 1990, Blechman 1990, OSD 1990, Owens 1990, Lindsay 1991, Wildavsky 1992). No study links any measure of the increase to the broader issue that Congress had dramatically increased the scope of its budgetary review during those same years. Aaron Wildavsky, commenting on the descensus of defense, wrote that

> In 1969 Congress made 180 changes to the defense authorizations bill and 650 revisions to the appropriations bill. These numbers increased to 222 and 1032, respectively, in 1975 and skyrocketed by 1985 to 1145 authorization adjustments and 2156 appropriations adjustments. (Wildavsky, 1992, 404)

A portion of the increases in line-item micromanagement are certainly due to more detailed scrutiny of the budget request, but a portion of the increase is also due to the inclusion of all types of weapons in 1970, Operations and Maintenance Programs in 1982, and all Procurement Programs in 1983. The breadth of Programs under Congressional scrutiny is a different issue than the detail of micromanagement.

Moreover, knowledge of the basis and dispersion of line-item changes is crucial because much of the empirical work that has been done is methodologically flawed. Typical in this regard is the initial Armed Forces Journal International study done by Deborah Kyle. She argued that Congress changed over 60% of the line-items accounted for in the 1984 defense budget request. Specifically, Kyle wrote that,

> the Senate Appropriations Committee changed 63% of the 1,129 line-items it reviewed and the House Appropriations Committee changed a whopping 68%...although proportionally similar, Committee changes were redundant only half of the time. In most cases one Committee changed one line-item, while the other adjusted a different one, thereby reworking nearly every line-item in the budget. (Kyle, 1984, 24)

However, Kyle's study was methodologically flawed. Kyle used only the Department of Defense final line-item summary on Congressional action (more commonly called the Financial Accounting Document or "FAD") in determining the base number of line-items within the president's budget request. This document exclusively addresses the specific program element funding requests that were subject to change by Congress. The FAD includes only those items that Congress has considered for change, not the total number of line-items in the president's defense budget request. That request includes thousands of line-items that are sufficiently non-controversial to Congress that they are excluded

from the FAD. In order to identify the total number of line-items in the president's request, a different set of documents must be used. The DoD Comptroller provides three documents to Congress that identify all of the line-items in their respective budget categories: Procurement Programs (the "P-1"); Research, Testing, Development, and Evaluation Programs (the "R-1"); Construction and Housing Programs (the "C-1"). There is no such document for Operations and Maintenance Programs. Kyle's failure to use the proper sources for determining the total number of line-items in the president's request led her to overestimate the percentage of line-items changed by Congress. A later Armed Forces Journal International studies accounted for all line-items in the budget request when calculating the percent changed in the FAD. Although this study indicated a higher number of line-item changes were made, its percent changed determinations were much lower. Specifically, 1,579 appropriations line-item changes in FY 1988 amounted to only 32% of the requested line-items and 805 appropriations changes in FY 1989 adjusted an even lower 21% of the next year's request. (Dean, 1989, 14) The last good empirical study of line-item changes was completed by James Lindsay in 1990. This was a very limited accounting of changes to line-items of nuclear weapons related expenses within the Procurement and Research Programs. Though the study was limited it was a sound accounting of changes viewed as a percent of total line-items and dollar values taken from the P-1 and R-1.

A second problem with much of the empirical literature on micromanagement is that it emphasizes authorizations, as opposed to appropriations. While the authorizations process is an integral part of defense budgeting, the final process through which funds are

appropriated for specific programs ultimately determines the actual spending levels for individual line-items. This is due to the fact that the House and Senate Appropriations Committees (and particularly their Defense Appropriations Subcommittees) possess the authority to actually "write the checks" that fund DoD programs. The appropriation of funding customarily occurs after the authorization process. In theory, the appropriators are supposed to be guided by the funding levels established by the authorization committees (i.e., the House and Senate Armed Services Committees). In practice, however, the appropriators do not always adopt the funding levels in the authorization committee conference reports, and numerous line-items within the DoD budgets are funded either higher or lower than the level designated in the Defense Authorizations Bill. In effect, the appropriations committees create their own separate versions of the Defense Bill, giving those committees the final power to shape the DoD budget.

A third empirical problem lies in determining which portions of the DoD budget to study. Some budget categories suffer from anomalies that make them poor points of reference for measuring micromanagement as a whole. For example, Military Construction Programs are considered separately from other budget requests even to the point of being authorized and appropriated under a different bill than all other defense accounts. The findings of this study also indicate that Construction and Housing programs are adjusted differently than are the remainder of the military budget requests. Another anomalous category is funding for the Reserve and National Guard. The services have been gradually reducing these two components' operations, procurement, and construction budgets. There are no reserve or guard procurement funding requests in the FY 1994 or 1995 DoD

budget submission. Congress generally reacts by adding line-items and increasing funding in its authorization and appropriations bills. This reaction would suggest an extensive legislative interest in the reserve and guard quite above Congress' actual concerns.

Moreover, given the many thousands of total line-items in the total DoD budget, practical considerations dictated that this study's multi-year analysis of micromanagement focus on one budget category. We selected defense procurement for a number of reasons. While there are many different budget accounts within the DoD budget (Operations and Maintenance, Research and Development, etc.), Owens and others have argued that Procurement seems especially likely to be micromanaged by Congressional conduct that is driven by the desire to create jobs for constituents. (Owens, 1991, 142-3) Weapons production offers a particularly tempting target for such "pork"-oriented behavior.

This thesis attempts to present a more thorough measure of congressional micromanagement than currently exists. The statistical analysis is presented in four parts. The first analyzes legislative appropriations of the defense budget request to evaluate how many line-items out of the total were changed and by how much. The second part of the analysis considers each annual budget against its service components to identify any service specific anomalies in the appropriations process. The third part of the analysis compares House and Senate actions to determine the influence each chamber has to effect its mark on the final bill. Finally, the fourth part of this study is a cross sectional analysis of an entire defense budget to determine the applicability of the findings to other budgetary accounts.

III. METHODOLOGY

Part of the difficulty in examining micromanagement lies in understanding how line-items are created in the president's request. The line-items within the president's request are the result of a complex defense budgeting process that requires years of programmed planning. The defense department budgeting system is a highly intricate multi-staged mechanism that begins with each service's budget submission and generates a complex defense budget; an enigmatic document composed of over fifteen hundred program elements, five thousand line-items, and over one hundred different accounting systems. The budget is formed through a routinized sequence of decisions taken within a hierarchy of constraints, standard operating procedures, and simple decision making rules. (Mintz, 1988, 22) The individual service budget submissions are organized by program categories (such as strategic forces, general purpose forces, airlift and the like), which are collated, reconstructed, and divided into line-items by the defense comptroller. These divisions designate the object of the expenditure and the effecting service. Budgetary excesses are then reconciled to a specific ceiling.

It is important to note that the number of defense budget line-items that exist at any one time is constantly fluctuating. The standard document that contains all procurement line-items available in print is called the P–1, and it is the closest snapshot representation of procurement line-items published for each fiscal year in existence at any time. The

benchmark count of line-items used in this study came from the P–1s for each respective year. The Defense Comptroller's Program and Financial Department tracks all line-items considered by the Congressional Authorizations and Defense Appropriations Subcommittees. They publish a record of this line-item activity in a document called the Financial Accounting Documents (FAD). FADs track line-items that are singled out for potential change during either the authorizations or appropriations process. The FAD is a comprehensive compilation of all Congressional action and so was used as the basis for this study's accounting of changes made by Congress. Line-items listed in the FAD are drawn from all parts of the defense budget. However only line-items from the procurement accounts (excluding accounts designated for Reserve forces) were used in the multi-year analysis conducted in this study.

Figure 1 is a representative page from a FAD. The format is standardized. First listed (reading from left to right) are the line-item number and noun name. The next column specifies the amended presidential budget request. The following columns list the House and Senate Defense Appropriations Committees floor action. The dollar values in these columns represent the additions, subtractions, or agreement to the funding requested in the presidential budget. The header in these columns also specifies the House or Senate report number. The next column contains the resolution resulting from the Senate and House Appropriations Committees Conference. During this meeting the two chambers of Congress settle any differences in funding to determine the defense appropriations bill's final mark. The amount of spending agreed upon in conference will be the amount signed

FY 1990
Congressional Action on Appropriation Requests
(Thousands of Dollars)

Appropriation Title and Item	Budget Request 25 AUG 89	Authorized (Sec PL 101-189) 28 NOV 89	SAC Rpt. No. 101-208 4 AUG 89	SAC Rpt. No. 101-132 Floor Act 28 SEP 89	Conf. Rpt 101-345 Floor Act 19 NOV 89	Enacted PL 101-165 21 NOV 89
(1)	(2)	(3)	(4)	(5)	(6)	(7)
All other programs	930,848	914,733	-20,271	-12,500	23,917	914,711
Total - Other Procurement, Army	4,100,100	3,988,111	-212,135	-113,804	-499,881	3,940,219
Aircraft Procurement, Navy						
004 EA-6B/PROWLER (DISC WDFRAME) PROGRESS	104,970	104,970	310,230	-33,000	-10,000	104,970
007 AV-8B (V/STOL) HARRIER (DVP)	401,225	401,225		-33,500	875,360	445,225
008 F-14A/B/D(ENG (FIGHTER) TOMCAT	800,040	1,441,000	874,000		(10)	1,364,040
009 F-14A/B/D(ENG (FIGHTER) TOMCAT (SC)		(741)	(10)			(741)
010 F-14A/B/D(ENG (FIGHTER) TOMCAT ADV PROC (CY)	82,044	82,044				82,044
011 F/A-18 (FIGHTER) HORNET (DVP)	1,000,310	1,000,310	41,007			1,000,310
012 F/A-18 (FIGHTER) HORNET ADV PROC (CY)	530,040	100,040	-300,000	-51,000	380,500	141,040
013 CH/HH-53E (HELO) SUPER STALLION	200,207	254,000	-115,207	-207,307	209,007	154,040
014 CH/HH-53E (HELO) SUPER STALLION (SC)	(721)	(141)	(-10)	(-20)	(-11)	(110)
015 CH/HH-53E (HELO) SUPER STALLION ADV PROC (CY)	31,100	31,410				31,100
016 V-22 OSPREY ADV PROC (CY)			157,000			
018 SH-60B (ASW HELICOPTER) (DVP) ADV PROC(CY)	41,000	41,000	-8,200	-8,000		41,000
021 SH-60F CV (ASW HELICOPTER) (DVP) AP (CY)	54,027	54,027	-23,000	-27,000		54,027
024 E-2C (EARLY WARNING) RECURVE (DVP) AP (CY)	224,001	40,000	-100,500		-104,500	30,401
025 F/A-18 PRIOR YEAR SAVINGS		-53,000				
026 AIRBORNE ASW PROTECTION JAMMER	152,114			50,000	100,000	150,000
028 T-45TS SYSTEMS	6,330	6,330			-50,000	90,404
032 A-4 SERIES	63,307	63,307	23,000			8,330
033 A-6 SERIES	29,721	29,721			40,000	111,307
045 H-53 SERIES	30,726	30,726				29,721
052 P-3 SERIES	68,170	68,170	50,000			30,726
053 S-3 SERIES	1,662	1,662			25,000	81,135
060 CARGO/TRANSPORT A/C SERIES	5,000	5,000				1,662
063 POWER PLANT CHANGES	46,701	46,701				5,000
064 COMMON ECM EQUIPMENT						46,701
065 A-6 PRIOR YEAR SAVINGS	1,322,701	1,322,701	145,000		72,507	1,250,200
066 SPARES AND REPAIR PARTS	35,403	35,403	-000			35,403
070 OTHER PRODUCTION CHANGES				100,000	374,500	374,500
072 GOVT FURNISHED, EQUIP MODERNIZATION		783,400				
077 MODERNIZATION						
078 UNDISTRIBUTED PRIOR YEAR FUNDS						
500 INSTALLING MODS OF EQUIPMENT				892,500	542,250	542,250
All other programs	2,984,100	2,984,100				2,984,100

FAD 720 /90
DASH(FIP/B, Dir of Progrm & Financial Control

Figure 1. Representative Page from FAD

into law. The final column listed on a FAD page lists the amount of spending enacted into law for each line-item considered.

The defense department comptroller produces the FAD because it is concerned about the effects of Congressional changes. Legislative micromanagement does adversely affect the Pentagon's planning and programming process. Many of the projects listed as line-items can take years to complete. Reducing such a project's budget for the current year results in a reassessment of the out-year budget needs. The revised costs must not only account for the lost money but also for increases due to inflation and for production inefficiencies introduced by stretching out the program. These fiscal setbacks will, in turn, ripple out to affect the funds available for other programs in the out-years. In this way the original line-item change can permeate out into future budgets and affect many more projects than the single line-item first modified by Congress. Capitol Hill is aware of the affect of its micromanagement and of its responsibilities for oversight. The FAD documents legislative decisions to review program elements but does not provide Congressional rational for those decisions. According to a senior staff member of the Senate Appropriations interviewed for this study, specific line-items can be singled out for any number of reasons: due to historical interest, because of some specific like or dislike, or because a member intends to add or subtract from a range of programs associated with a line-item. Any line-item considered by the defense authorization or appropriations committees shows up on the FAD (whether it is ultimately changed or not).

Parts of the Defense Budget not listed in the FAD are the classified intelligence procurement budgets for each of the respective services. While there are classified

line-items within the DoD Procurement budget (listed either by their code name or simply by the label "classified program") there is no "single-source" document modeled along the lines of the FAD tracking funding of intelligence line-items through the appropriations process. While it is obvious that such a document would not be available for unclassified research, extensive inquiry indicates that such a document simply does not exist at all. According to a senior Defense Department budget official, the intelligence community has been more concerned with the intelligence information traveling through the hardware on hand and much less concerned with defending the purchase of the hardware itself.

In essence, the intelligence community has been more results oriented than hardware oriented. This attitude translates into a mission oriented approach to defending intelligence procurement programs when testifying to Congress, and has resulted in a lack of line-item tracking over time. While this process of budgeting appears to have been successful to date, it has resulted in little tangible information available for analysis, and until only recently (as result of the shrinking DoD budget) little enthusiasm for tracking line-items over time. Since there is no comprehensive list of intelligence procurement line-items available for analysis, intelligence procurement budgets for the services will not be addressed within the limits of this study. However, in light of the continuous decline in defense procurement (and in the Defense Budget as a whole) it would appear wise for the intelligence community to take aboard the concept of line-item management and tracking, if for no other purpose than to have an additional tool for analysis.

Each line-item listed in the FADs for 1989–1994, and used in this study, was manually entered into a database for analysis. While this process was time consuming, it afforded

detailed analysis by sophisticated computer statistical software packages (specifically *Statview* by MacIntosh and *SPSS*). Table I lists the coding format used in the data entry for this study. Figure 2 shows an example of how the data from the FAD looked when entered into the analysis database. The data first was broken down by service component (Army, Navy, Air Force) then by program account (Operations, Procurement, Research) and finally by program element (aircraft, weapons, ships). The data was entered by line-item within each program in the order it appeared in the FAD.

TABLE I CODING FORMAT FOR DATA ENTRY

SERVICE		PROGRAM		PROCUREMENT	
ARMY	1	PROCUREMENT	1	AIRCRAFT	1
NAVY	2	PERSONNEL	2	WEAPONS	3
AIR FORC	3	OPER & MAINT	3	SHIPS	3
MARINES	4	RDT & E	4	VEHICLES	4
DEFENSE	5	MANAGEMENT	5	AMMUNITION	5
		CONSTRUCTION	6	RESERVES	6
		HOUSING	7	OTHER	9

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	HASC	SASC	ASCC	AUTH	HDAB	SDAB	APPC	INACTIV
2	1	1	5	147763	0	0	0	147763	-40000	0	0	147763
2	1	1	6	252428	0	0	0	252428	0	0	-56000	196428
2	1	1	15	49139	-40000	42700	42700	91839	-40000	42700	42700	91839
2	1	1	20	9738	0	0	0	9738	-4500	0	0	9738
2	1	1	24	96157	250000	0	225000	321157	225000	0	0	96157
2	1	1	28	0	0	0	0	0	0	-28600	-28600	-28600
2	1	1	30	101012	0	-5050	-5050	95962	0	-2525	-2525	98487
2	1	1	31	75154	0	0	0	75154	0	-45992	-22992	52162
2	1	1	39	0	0	0	0	0	-17100	0	0	0
2	1	1	40	0	0	0	0	0	0	0	225000	225000
2	1	1	41	0	0	0	0	0	0	0	-7000	-7000
2	1	1	999	559868	0	0	0	559868	0	0	0	559868
2	1	2	5	9459	0	0	0	9459	55000	0	25541	39000
2	1	2	8	103376	0	0	0	103376	0	-20000	-20000	83376
2	1	2	11	2169	108731	108700	108729	110898	92131	108729	108729	110898
2	1	2	13	197270	-7919	-51000	29730	227000	5730	-50841	-50841	146329
2	1	2	15	163241	0	0	0	163241	4145	4145	4145	167386
2	1	2	21	4998	0	0	0	4998	10000	0	10000	14998
2	1	2	25	42142	0	-2105	-2105	40037	0	-2105	-2105	40037
2	1	2	29	0	0	0	0	0	-10240	0	0	0
2	1	2	30	0	0	0	0	0	0	0	-6000	-6000
2	1	2	999	459643	0	0	0	459643	0	0	0	459643
2	1	4	3	965	0	0	0	965	-965	0	-965	0
2	1	4	11	25202	0	40000	122400	147602	0	-25202	0	25202
2	1	4	12	986	0	0	0	986	0	0	8000	8986
2	1	4	13	52032	0	-2600	-2600	49432	0	-2600	-2600	49432
2	1	4	15	50183	0	0	-14487	35696	-14487	-14487	-14487	35696
2	1	4	20	0	0	0	0	0	280000	150000	125000	125000
2	1	4	22	0	0	0	0	0	0	122400	161000	161000
2	1	4	25	0	0	0	0	0	0	25000	25000	25000
2	1	4	35	0	0	0	0	0	0	0	-3000	-3000
2	1	4	999	484873	113200	179800	140600	643073	0	0	0	484873
2	1	5	2	25167	8600	0	8600	33767	19000	0	8600	33767
2	1	5	3	10884	4800	0	4800	15284	4800	0	4800	15284
2	1	5	6	11420	0	-2700	0	11420	5000	5000	5000	16420
2	1	5	7	0	0	0	0	0	11200	0	0	
2	1	5	8	4663	-4663	0	0	4663	-4663	0	0	4663
2	1	5	10	28545	-650	0	-650	28895	-650	0	-650	28895
2	1	5	13	13377	0	0	0	13377	-13377	0	-13377	0
2	1	5	14	3020	0	-3020	-3020	0	-3020	-3020	-3020	0
2	1	5	15	0	0	0	0	0	3200	0	3200	3200
2	1	5	18	0	0	0	0	0	29500	0	29500	29500
2	1	5	19	0	0	0	0	-1	29500	0	29500	29500
2	1	5	28	172117	0	-81200	-81200	90917	0	-81200	-81200	90917
2	1	5	29	35486	0	0	-35486	0	-35486	-35486	-35486	0
2	1	5	30	0	0	0	0	0	30000	17500	35000	35000
2	1	5	32	37913	0	0	0	37913	112200	0	22487	60400
2	1	5	40	0	60000	0	60000	60000	60000	0	60000	60000
2	1	5	44	10000	0	23000	23000	33000	26400	0	0	10000
2	1	5	47	7707	-1400	-1400	-1400	6307	-1400	-1400	-1400	6307
2	1	5	48	6879	-480	-300	-300	5779	-480	0	-480	5299
2	1	5	50	10102	-4160	0	0	10102	-4160	-4160	5960	24002
2	1	5	99	31480	-1700	-4800	-4800	26680	-1700	-4814	-4814	20876
2	1	5	61	73177	0	-4900	-4900	68277	6923	-4900	-4900	68277
2	1	5	62	23600	11400	9000	11400	35000	11400	0	11400	35000
2	1	5	70	0	0	0	0	0	0	0	200000	200000
2	1	5	75	0	0	0	0	0	0	0	-5000	-5000
2	1	5	999	338273	42000	19000	23000	348273	27000	-2000	27000	338273

Figure 2. Printout of Sample from Analytic Database

A. STATISTICAL ANALYSIS OF MULTI-YEAR DATA

The first stage of analysis considered successive annual procurement requests against appropriations changes as a whole. This examination measured the percent of procurement line-item changes for each year. This was done by counting the number of changes documented in each year's FAD and dividing by the total procurement line-items documented in the corresponding year's P-1. The next level of analysis split the annual appropriations changes down into the number of additions and subtractions. These changes were evaluated for percentage variations and for their net dollar value changes. Finally the monetary data from the preceding analysis was merged to reflect the total dollar amount (by summing the absolute value of additions and subtractions) and the net amount (by summing the raw value of additions and subtractions). This process was conducted successively against the whole budget, against the service and program components, and finally against program element breakdowns. The resulting values reflected the total change for each year under study.

The next stage of analysis involved statistical evaluation of the tabulated budget accounts to determine mean levels of activity by legislative committee. This required a careful review of coding to exempt line-item changes that were not modified by the committee being evaluated (i.e. excluding line-item whose change value was zero).

The primary purpose of the statistical analysis was to determine whether changes made by Congress show a standard normal distribution pattern. This portion of the study focused on two distinct levels of analysis; first on the correlation of House, Senate, and

Conference activity and second on an analysis of variance (ANOVA) between legislative treatments of program elements.

Correlation analysis studies the joint behavior of two statistical populations to see whether they are related. The strength of their relationship is measured by a correlation coefficient (r) which varies from -1 to 1. Correlation analysis does not depend on which of the two populations under study is treated as the dependent variable nor on the units in which the populations are measured. Correlation is a general measure of the linear relationship among the variable where the highest orders of relationship are achieved when the correlation coefficient is 1 (positive slope) or -1 (negative slope). Statistical rules of thumb provide that the correlation is weak when the coefficient is less than 0.5, strong when the coefficient is greater than 0.85, and moderate otherwise. The square of the coefficient roughly describes the percentage of the sample that could be accounted for by a linear model.

Analysis of variance is a more rigorous study of sample populations that tests for differences in true averages associated with different treatments of a controlling factor. In this study the budget request is the base statistical population and the legislative action is the factor under study. ANOVA tests against the assumption that the base and treatment populations are all normally distributed with the same variance. ANOVA derives a test statistic (F) that gauges agreement between the sample population and a theoretical standard (a chi-squared distribution). A large difference between the test population's F-test and the theoretical F-test indicates a weak relationship between the factor under study and the base population. This difference is normally shown as a p value. This is a

test of significance common to all statistical analyses. The p value conveys information about the strength of the test that allows evaluation at any level of testing. The p value varies between 1 and 0 where a value closer to 1 indicates test significance and closer to 0 indicates insignificance. Most computer driven statistical analysis packages automatically calculate and display p values. A conclusion about significance can then be drawn directly from the output data without reference to tables of critical values (as would be required to evaluate the F-test).

Correlation measurements were taken to investigate the strength of the relationship between the House, Senate, and Conference action for each year. ANOVA measurements were taken by percentages and funding levels to determine pattern of relationships within the program and service components.

B. STATISTICAL ANALYSIS OF SINGLE YEAR CROSS SECTIONAL DATA

The initial analysis of Congressional appropriations action searched for trends within multi-year budgeting of the defense procurement accounts. The follow on empirical survey analyzed all budgetary accounts within a single year to find out if Congressional action amending the procurement account typifies action within other defense accounts. This portion of the study focused on the 1994 defense budget request and included both the House and Senate Armed Service Committees' and Defense Appropriations Subcommittees' action on all accounts represented in the FAD. Although the FAD treats each program account similarly there are differences in the original budget submission

between those accounts. The first and most obvious difference is that the Armed Services Committees do not authorize specific sums of money for personnel but rather authorize a specific end strength. The end strength can be converted to a dollar figure given certain assumptions about cost per man and rank distributions. These calculations are not included in the FAD. Appropriations for personnel are provided by single line budgets differentiated only by service. These anomalies differentiate the personnel accounts from other accounts and make them unsuitable for line-item analysis through statistical methods. The Operations and Maintenance account (O&M) is also anomalous in that there is no O-1 and only a limited elemental division of line-items in the president's budget request. Legislative committees overcome this by breaking the operations accounts apart in their own legislative review. This requires a slightly different treatment of the O&M account to allow for a measured appraisal of this process. The base line-item count for O&M is taken as the number of line-items in the final bill (as delineated in the FAD). The Procurement (P-1), Research (R-1), and Construction (C-1) accounts do have itemized budget requests and these were used to determine the base number of line-items within each account. The Construction account can be broken down even further. First into Construction and Housing since both accounts are treated separately in the C-1. This was done. Second as specific projects within each element line, by law the Office of the Comptroller must receive specific authorization and appropriation for each project to allocate funding. This study remained at the level of elemental detail to remain consistent with the review afforded other budgetary accounts.

The statistical methodology utilized two-way contingency tables that compared change frequency coded as a nominal variable against action within budget categories by different legislative committees. The purpose for employing a contingency table methodology was to investigate whether the proportions between the different budgetary categories are the same as for the whole statistical population. The hypothesis is that the sample population is categorically homogeneous. The first step in conducting the test is to tabulate the observed population values so that they can be compared to the expected population. The expected number of observations is the product of the sample population and category proportion. If the hypothesis of homogeneity is true and all samples are large ($n > 5$), the differences between the sample population and the expected population should be small. The test results provided observed and expected counts, a chi–squared test value, and its associated level of significance (p).

The statistical results for the multi-year and single year analyses are presented graphically through the charts provided in the results chapter. The multi-year analysis yielded charts of percent change in total line-items by program and service and composite dollar changes by addition, subtraction, average, and net differentiated by program and service. These same graphs were prepared for the single year analysis as well as charts showing committee differences and levels of association. These later chart displays program category along the x-axis and associated counts along the y-axis. The observed counts are shown as the blocks originating from the x-axis, the expected counts are the heavy lines drawn over the blocks. The difference between the two shows the breadth of dissociation between a statistically homogeneous sample and observed measurements.

IV. THE RESULTS

The results of this empirical analysis are introduced in three parts. The first part presents a summary of appropriations committee changes to defense procurement budget requests from 1989–1994. The next part explores those changes for statistical variations within their service and program element components. The final part presents a cross sectional analysis of authorization and appropriations changes to the fiscal year budget for 1994. The funding levels referred to and listed in the following tables and graphs do not include accounts designated for the Reserve forces.

A. RESULTS OF THE MULTI-YEAR ANALYSIS

The statistical analysis begins with a basic breakdown of procurement line-item changes relative to the total number of line-items listed in the P-1 for each fiscal year. The base number of annual line-item changes are listed in Figure 3. The number of changes varied between a low of 233 in FY 1989 to a high of 287 in FY 1993. Change percentages were calculated by dividing base numbers of changes into the total number of line-items listed in the P-1 for each respective year and are presented in Table II. The percentage of line-items changed each year by the appropriations subcommittees varied between 15 and 23 percent.

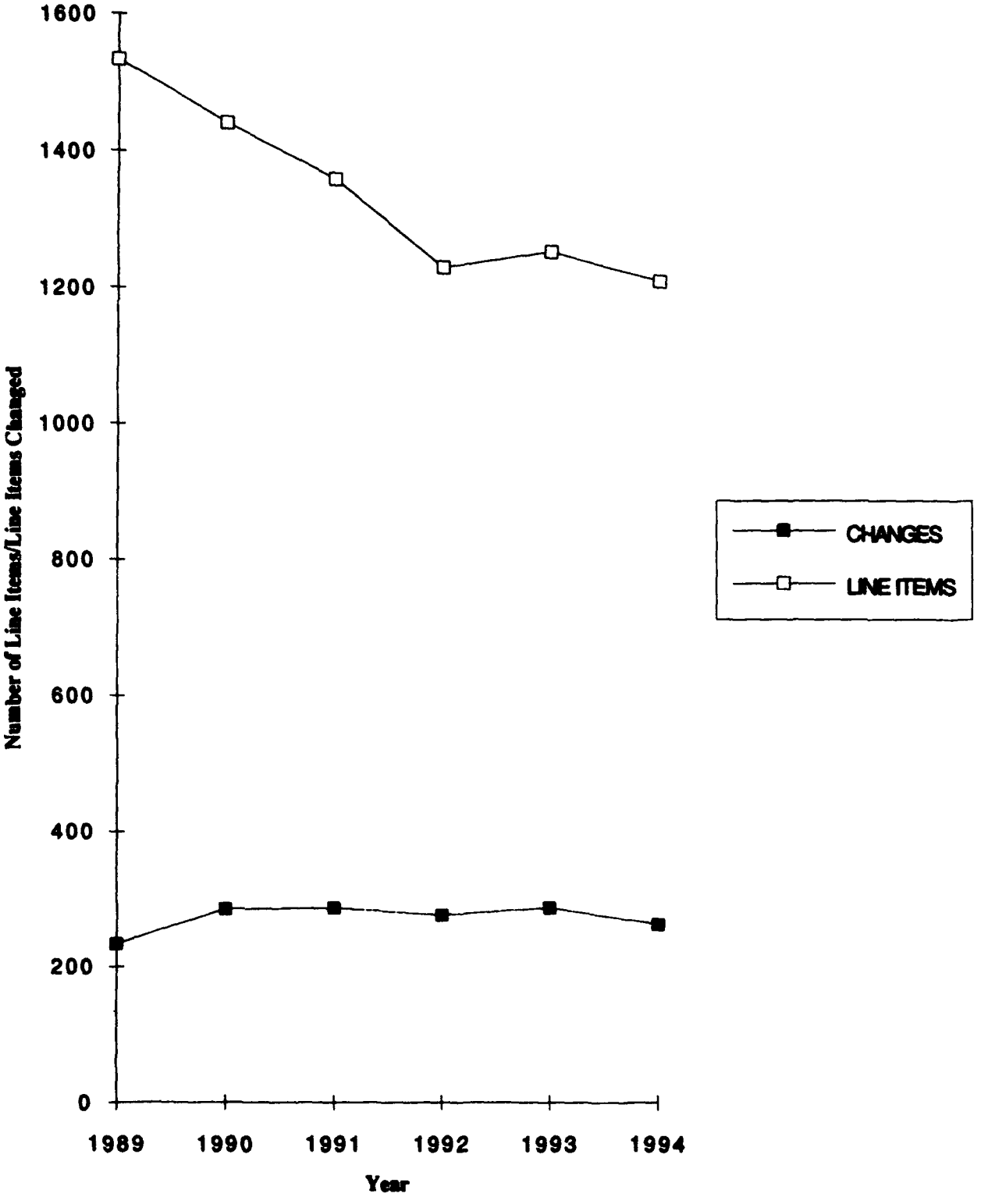

Figure 3. Line-Item Changes vs Number of Line Items (Procurement)

TABLE II PERCENT PROCUREMENT LINE-ITEMS CHANGED BY APPROPRIATIONS

1989	1990	1991	1992	1993	1994
15.2%	17.8%	21.0%	22.5%	22.9%	21.7%

The next level of analysis describes line-item changes as a function of cuts or additions. Figure 4 shows this breakdown. In each year more line-items were subtracted from than were added to. FY 1991 represented the widest disparity between changes adding (60 items) and changes cutting (226 items). Exploring further, the percentages additions and subtractions were determined and plotted with the total change percentages in Figure 5. As expected, the largest percentage of line-items cut occurred in FY 1991 when 16.6% of procurement line-items were cut in funding by the appropriators. This action coincides with the largest dollar amount of cuts (roughly $16.5 billion). The largest percentage of line-items added occurred the following year when 8.8% of procurement line-items were increased in funding. However, the largest increase in the dollar additions to procurement line-items was in 1990 ($11.85 billion), and not 1992 ($5.68 billion). The pattern indicates that prior to 1991 there were a smaller number of large funding changes and since then the pattern has changed to a pattern of enacting a larger number of smaller dollar amount increases. The year with the largest percentage of procurement line-item changes was 1993 (22.9%). However, it is important to note that despite the apparent increase in the percentages of line-item changes, the actual number of line-items changed did not differ significantly over the last three years of the study.

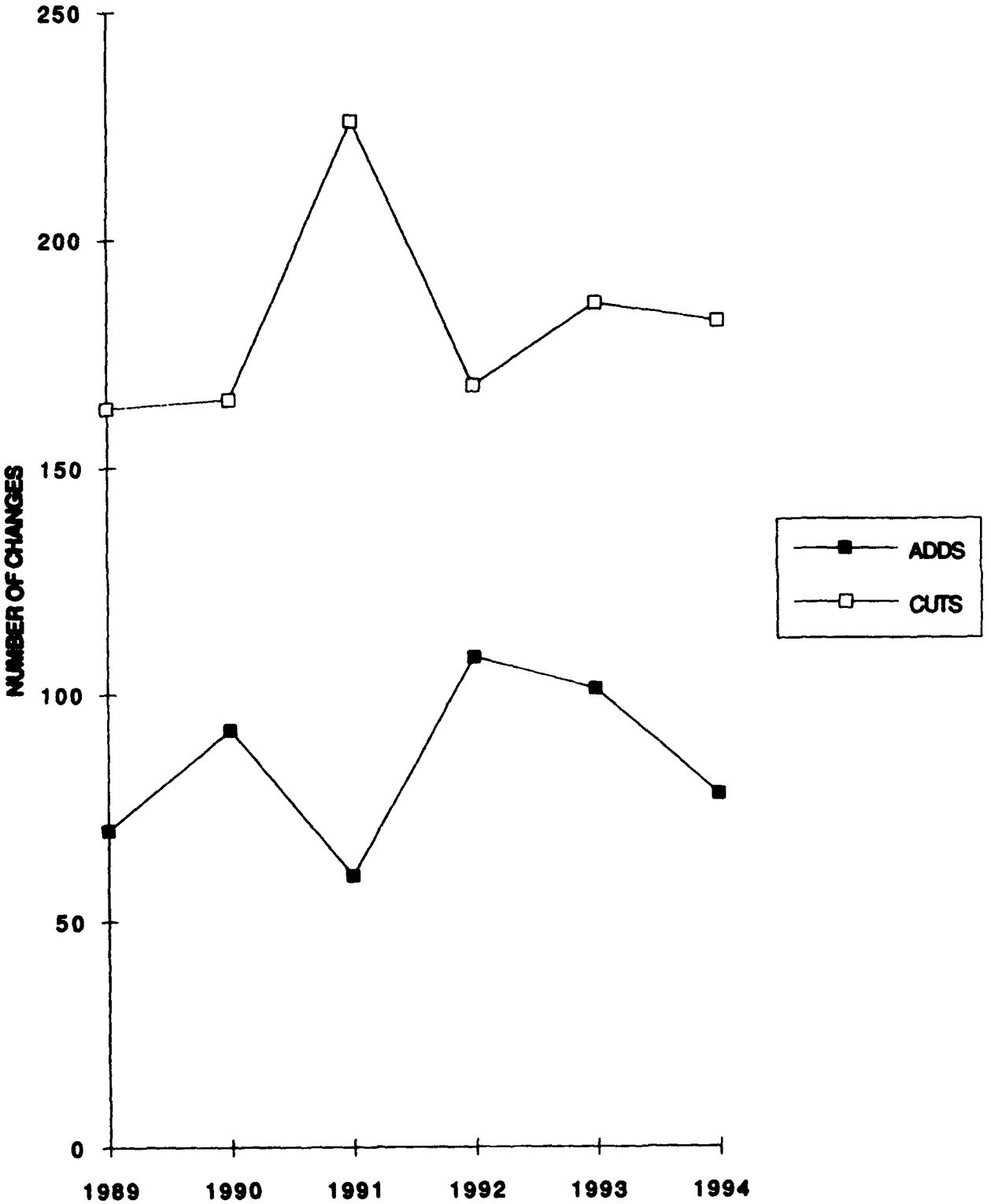

Figure 4. Appropriators Line-Item Changes to DoD Procurement

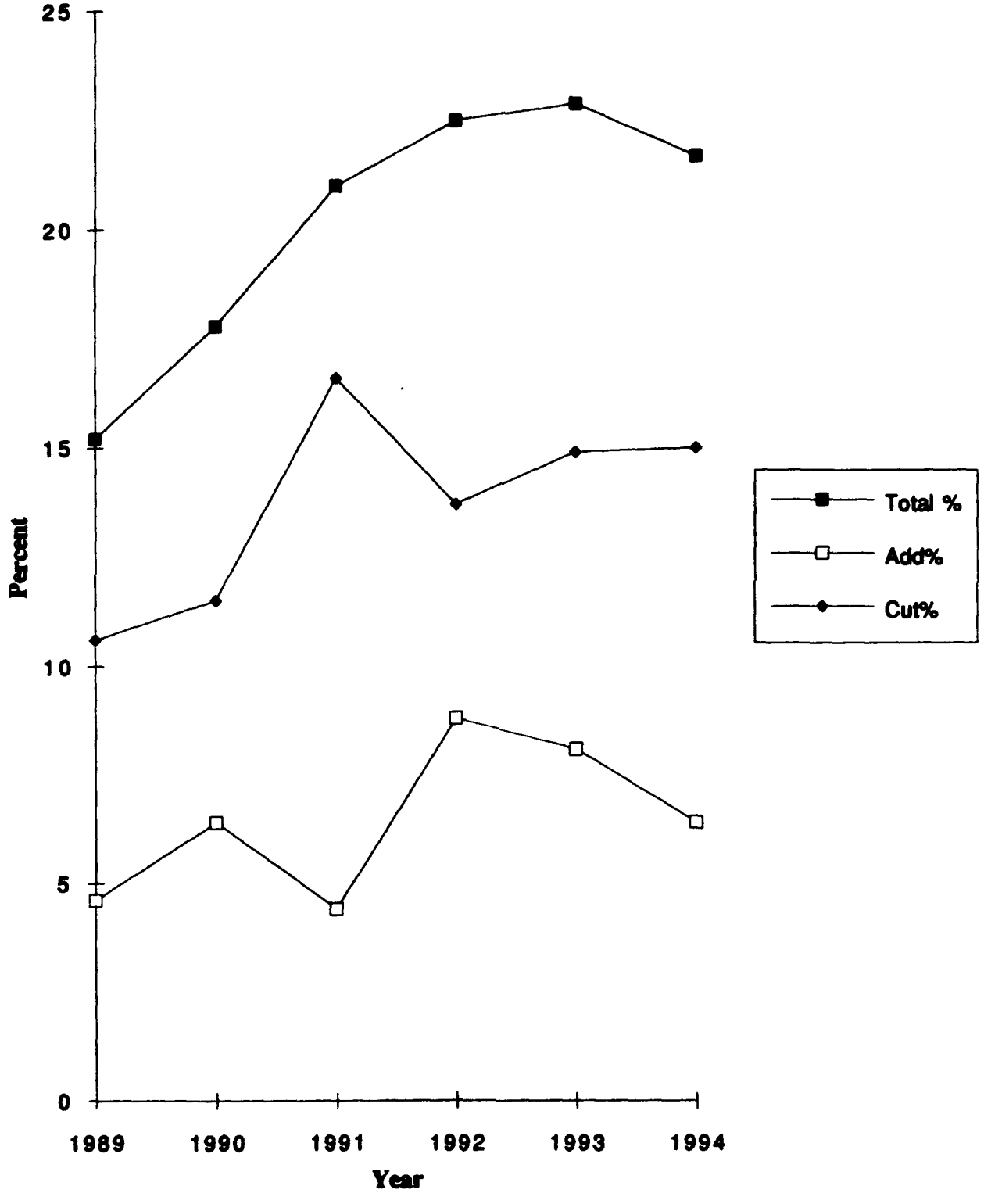

Figure 5. Line-Item Changes as a Percent of Total DoD Procurement

Rather the total number of line-items listed in the P-1 has decreased from the numbers submitted at the beginning of the decade. The recent increase in the percent of line-item changes does not appear indicative of any closer scrutiny by the appropriations subcommittees, but rather simply reflects a decreasing procurement program.

The next level of analysis measured the number and percentage of line-item changes as a function of the dollar amount of change in the defense procurement budget (in billions). This analysis combined the dollar amount of both additions and subtractions enacted by the appropriations committees (absolute value of additions and subtractions were combined as positive numbers, to measure the total dollar amount of change). Figure 6 shows the dollar amount of change plotted against the total defense procurement budget. This chart indicates that the procurement budget has been on a steady decline (from $78 billion in 1989 to $44 billion in 1994) and since 1991 a commensurate decline in the total dollar amount of change.

The next step in the analysis was to identify the specific dollar changes enacted by the appropriators. Figure 7 breaks down and displays the specific changes as additions and subtractions. The only year that Congress added more to procurement programs than it cut was FY 1990 (the same year as the Persian Gulf War) It is noteworthy that despite a net increase of $4.4 billion in FY 1990, the final appropriation was still $1 billion less than it had been in 1989. There are two important points that can be drawn from the general analysis of the annual budget. The first is that despite the rancorous and rhetorical protests of many congressional critics, Congress changes relatively few of the line-items proposed in the procurement section presidential budget request (on average about 20%

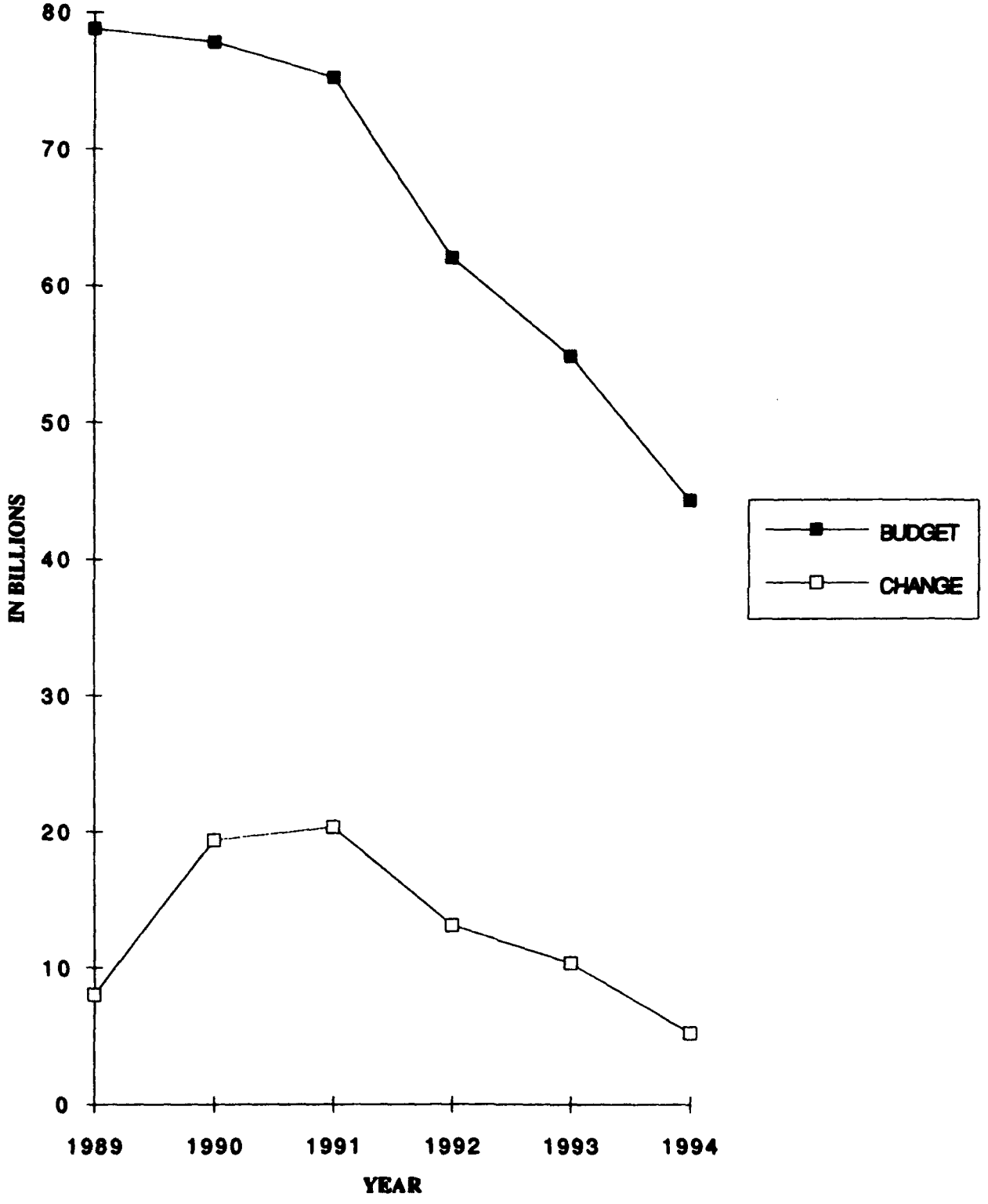

Figure 6. Dollar Amount of Change in DoD Procurement

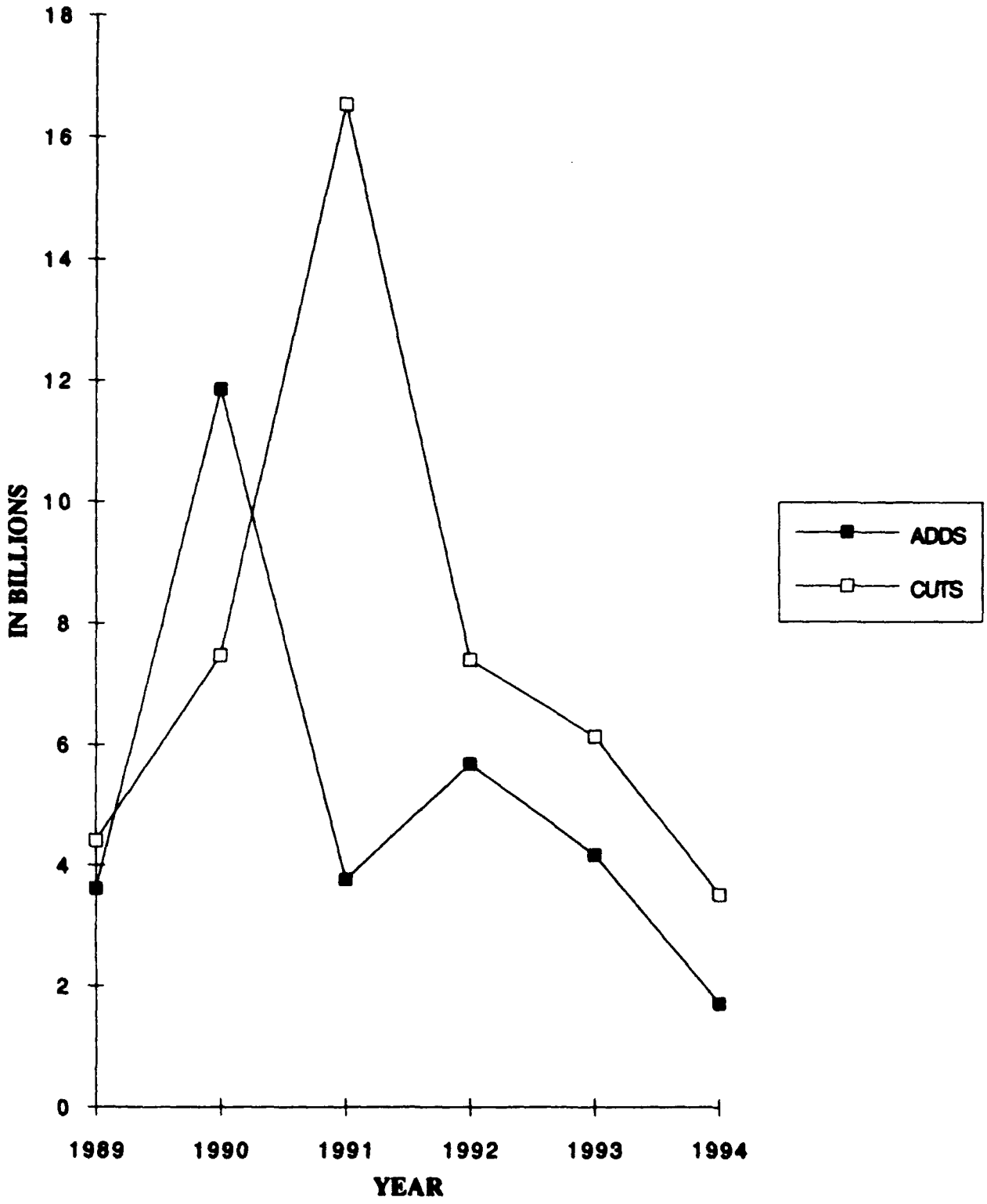

Figure 7. Appropriations Procurement Line-Item Changes (in Billions)

over the last six years) and the dollar value of those changes is small when compared to the total procurement budget.

The second point is that although Congress generally appears to defer budgeting to the defense department it can and will change the budget if it is dissatisfied with the Pentagon's strategic and structural policy rationale. FY 1991 is unusual in just about every aspect measured in this study. The budget that year largely continued past policies even though historic events had reshaped the international balance of powers (and the American economy dipped into recession). The defense department's stance provoked sharp criticism on Capitol Hill that quickly moved beyond rhetoric. Paul Stockton observed that

> After attacking the testimony of Cheney and other defense officials in a series of defense policy hearings, the House and Senate Armed Services Committees began in the spring of 1990 to draft their own version of the defense budget. Differences soon emerged between the two committee "marks," with Nunn pushing for smaller cuts than did Congressman Les Aspin, chair of the House Armed Services Committee. Nevertheless, the defense authorization bills that emerged from the two committees reflected a different sense of program spending priorities (and lower overall spending levels) than those proposed by the president. (Stockton, 1993, 240)

The next part of the analysis focuses on the individual committee, service, and program element components of the appropriations changes to the presidential budget request. The first phase of the analysis studied the interactions of the House Defense Appropriations Subcommittee (HDAS) and the Senate Defense Appropriations Subcommittee (SDAS). Figure 8 shows the average line-item activity conducted by the HDAS, SDAS, and by their final conference mark up. The mean for each committee was calculated by dividing the total number of change proposals (specific to each committee) by total dollar amount

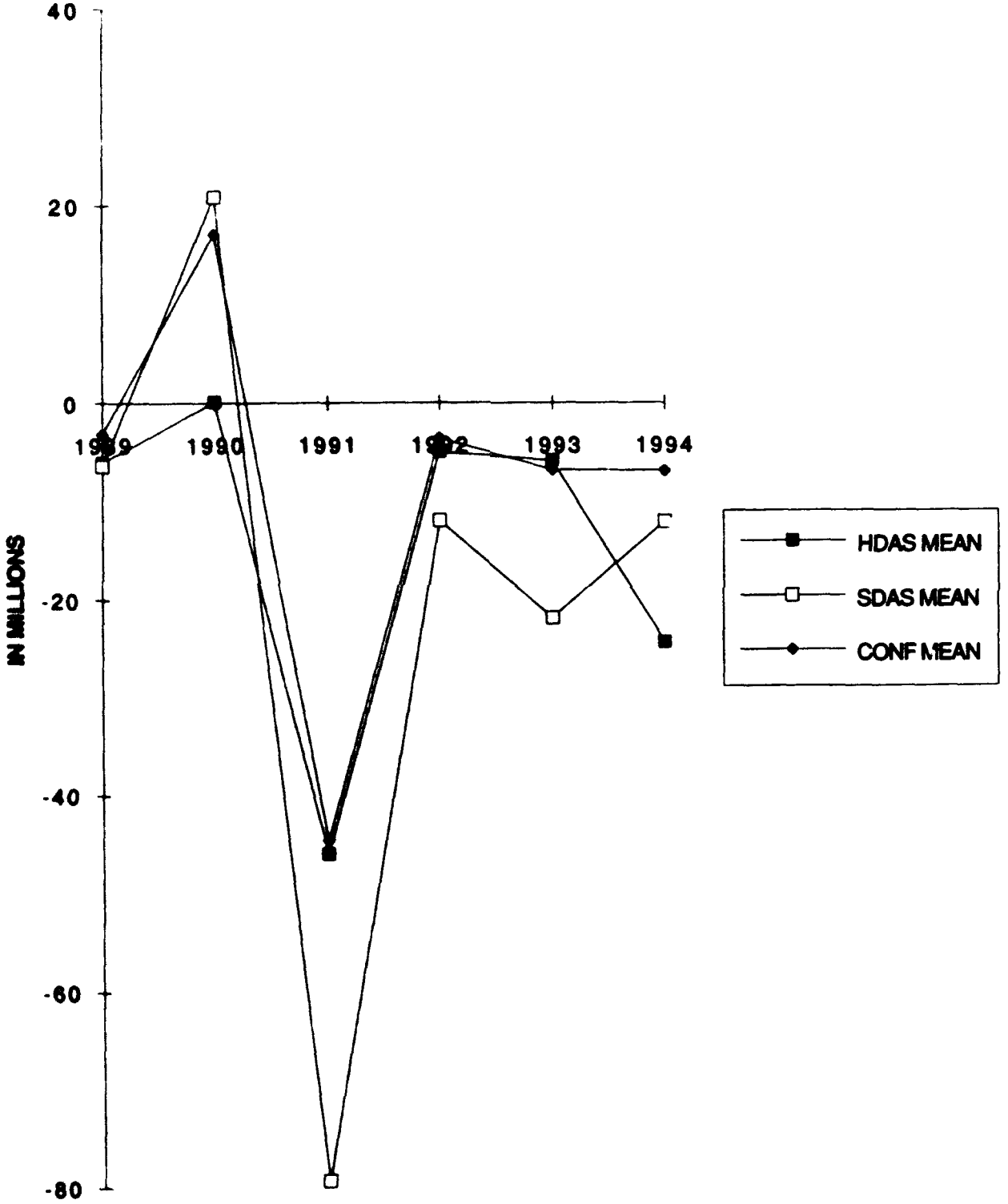

Figure 8. Average Dollar Value of Line-Item Change by Appropriators (Procurement)

of the proposed changes (also specific to each committee) The figure shows the comparative magnitude of the average annual recommendation of each committee (per line-item) and the average change that results from the final conference mark up. The figure indicates that more often the HDAS is closer to the average conference mark.

While the measurement of the average change proposed by each appropriations committee is descriptive, additional statistical tools can be used to build a stronger basis of comparison. Correlation testing provides a more rigorous comparison between the actions of the two committees. Table III presents the computed correlation coefficients resulting from a comparison of the line-item dollar value changes within the appropriations committees and final conference. As described earlier, the higher the value of the coefficient, the closer the level of association between sample populations. The table indicates that the SDAS more often brings its change through the final conference (although as noted earlier, on average the HDAS is closer indicating that large changes proposed by the SDAS are not as readily accepted). The table also indicates an overall steady decline in the association between committee action and final conference mark. The inference is that committee decisions on line-item changes matter less than they used to. The level of association in FY 1994 was particularly weak.

TABLE III ANNUAL COMMITTEE TO CONFERENCE CHANGE CORRELATION

	1989	1990	1991	1992	1993	1994
HDAS	0.723	0.563	0.722	**0.585**	0.386	**0.344**
SDAS	**0.871**	**0.857**	**0.916**	0.369	**0.724**	0.288

SOURCE: DoD Financial Accounting Documents for FYs 1989 to 1994.

The next level of analysis examined the results of appropriations committee line-item changes against individual service components. The raw number of annual line-item additions and subtractions for each service were plotted and are presented in Figure 9. The figure indicates that all services (excepting the Marine Corps) withstood a particularly large increase in the number of line-item cuts in 1991. Marine Corps procurement activity, which is relatively small in comparison to the other three services, tracks evenly over all the years studied. The specific dollar changes to service accounts are provided in Figure 10. Only the relatively good treatment of the Navy in FY 1990 (through additions) and mild treatment of the Army in FY 1991 (through limited cutting) stand out from the apparently even treatment of the services. Figures 11 through 18 provide separate service plots of percent and specific dollar changes for further clarity. Finally, the net dollar change in appropriations is provided by Figure 19. This figure shows that in general appropriators add to Army and Marine budgets while subtracting from Navy and Air Force budgets. However the net effect for all services is at most modest, not exceeding $3 billion in budgets averaging $20-$30 billion annually.

The final component level analysis examined appropriations committee activity against a breakdown of program elements. The intent of this investigation is to find out if appropriators have an interest in any particular group of projects within the procurement account. ANOVA testing was used to explore differences in the means and variances in the Congressional treatment of program elements. The statistical results of the examination are provided in Table IV in the form of means tables differentiated by HDAS, SDAS, and CONFERENCE activity. The tables indicate that while some

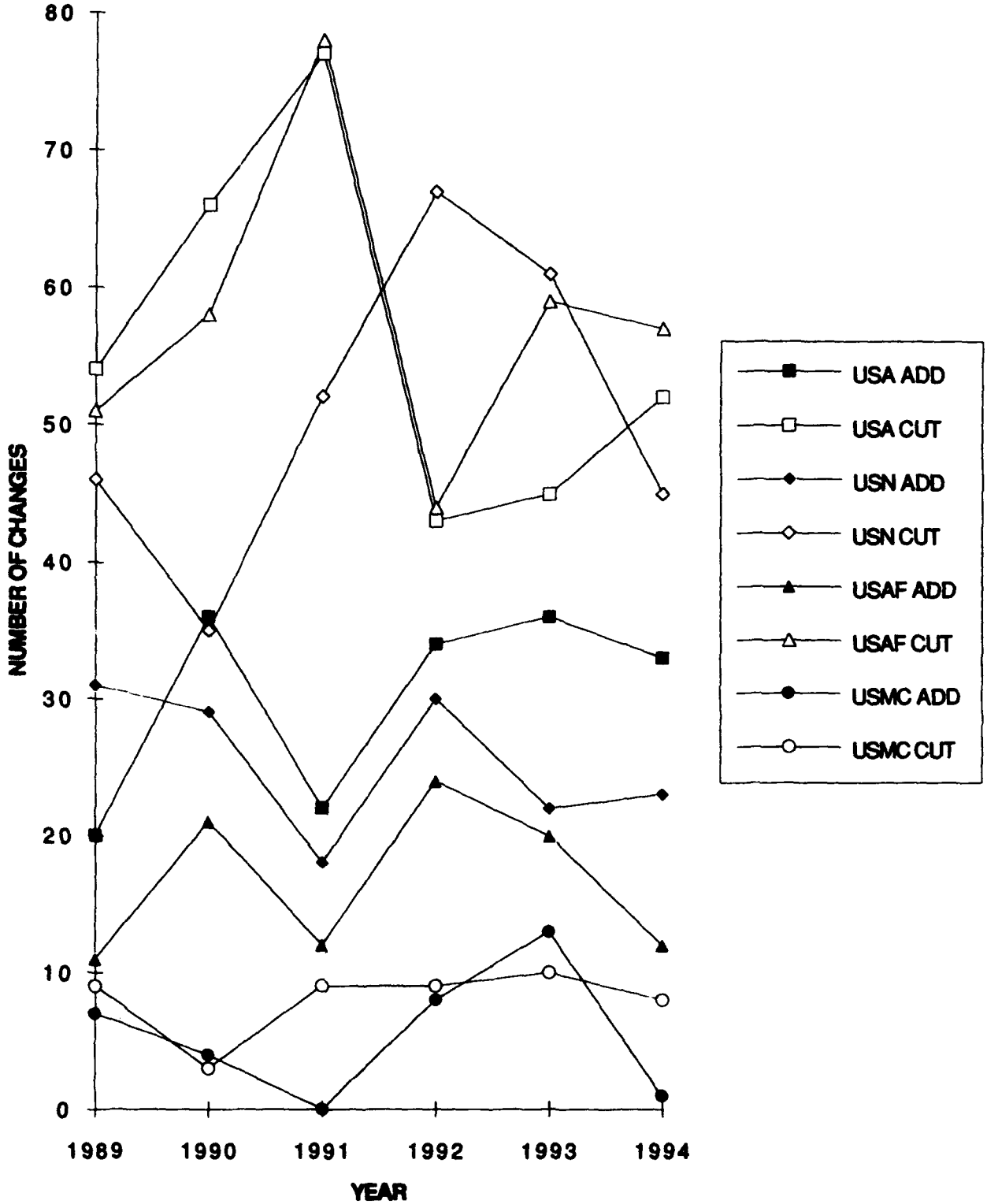

Figure 9. Appropriations Procurement Line-Item Changes by Service

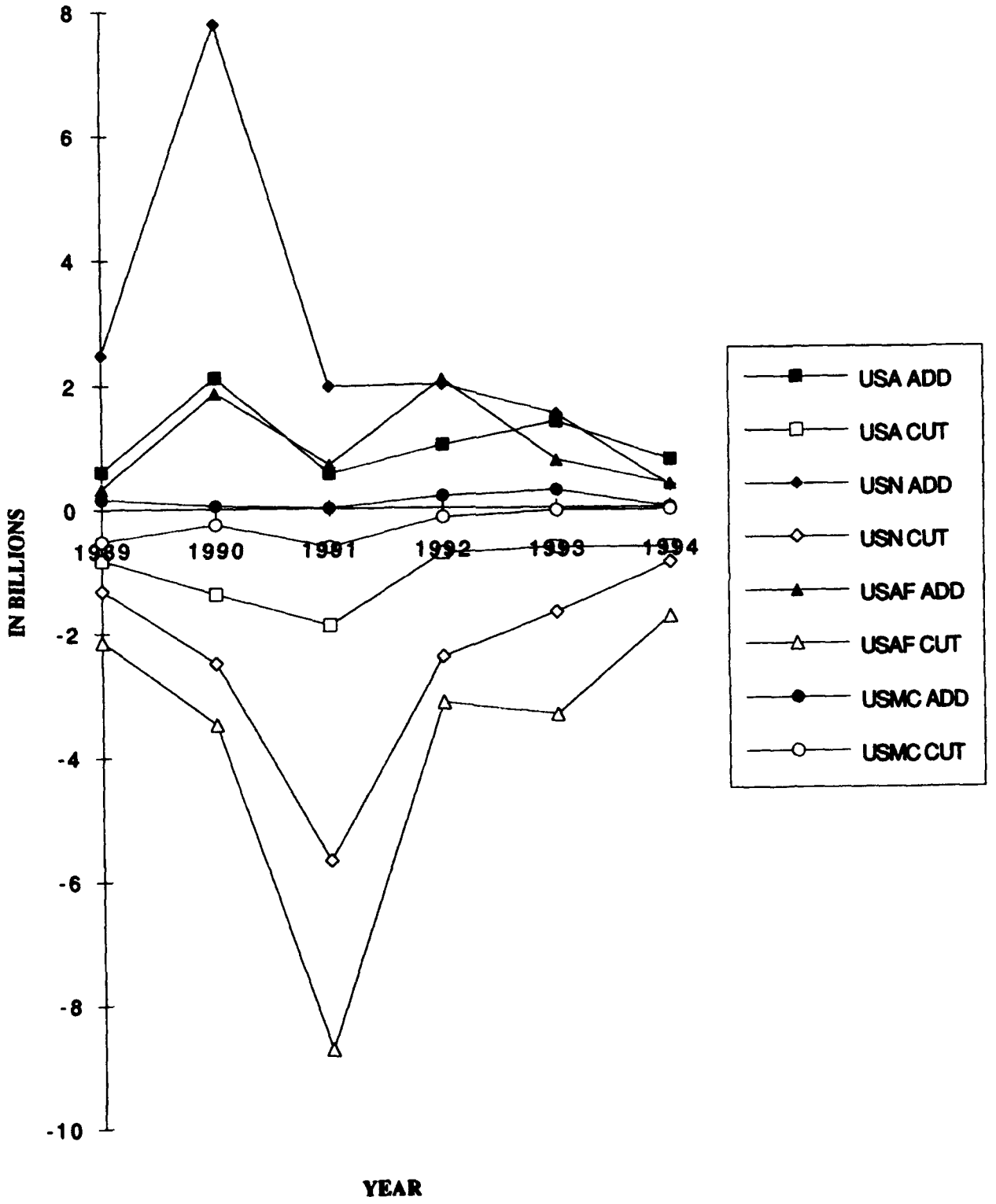

Figure 10. Net Dollar Amount of Procurement Line-Item Changes by Service

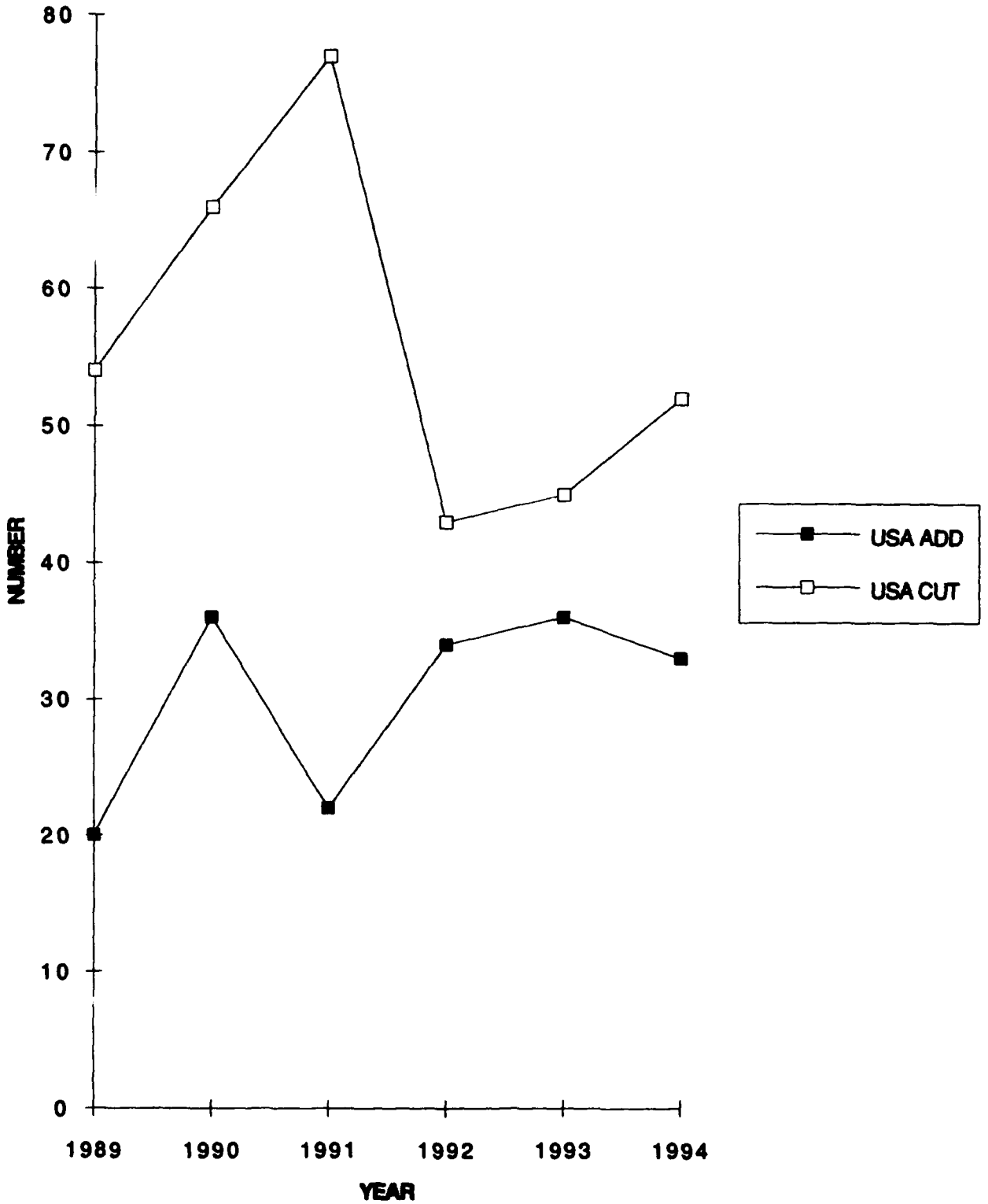

Figure 11. Army Appropriations Line-Item Changes (Procurement)

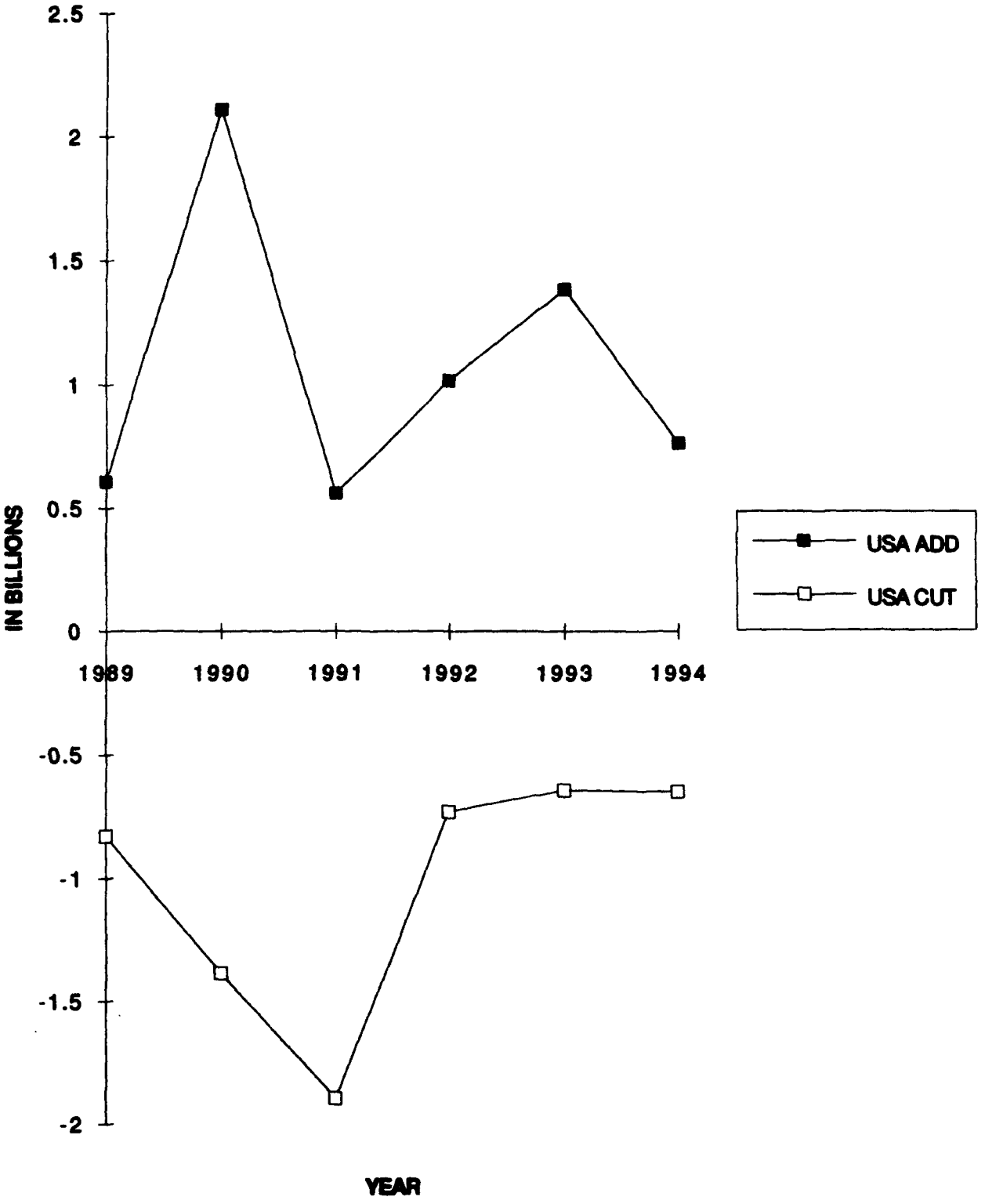

Figure 12. Dollar Value of Changes to Army Appropriations Request (Procurement)

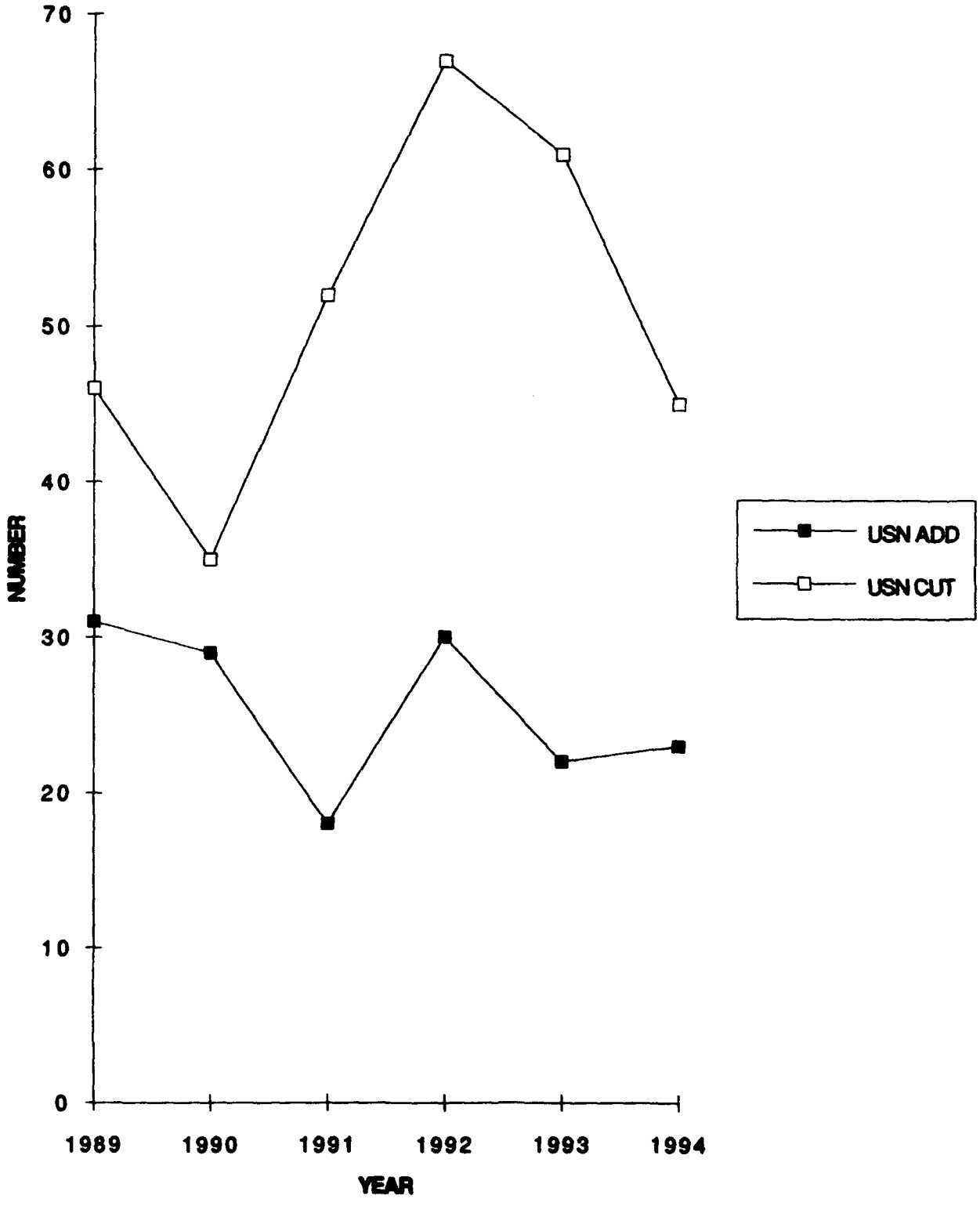

Figure 13. Navy Appropriations Line-Item Changes (Procurement)

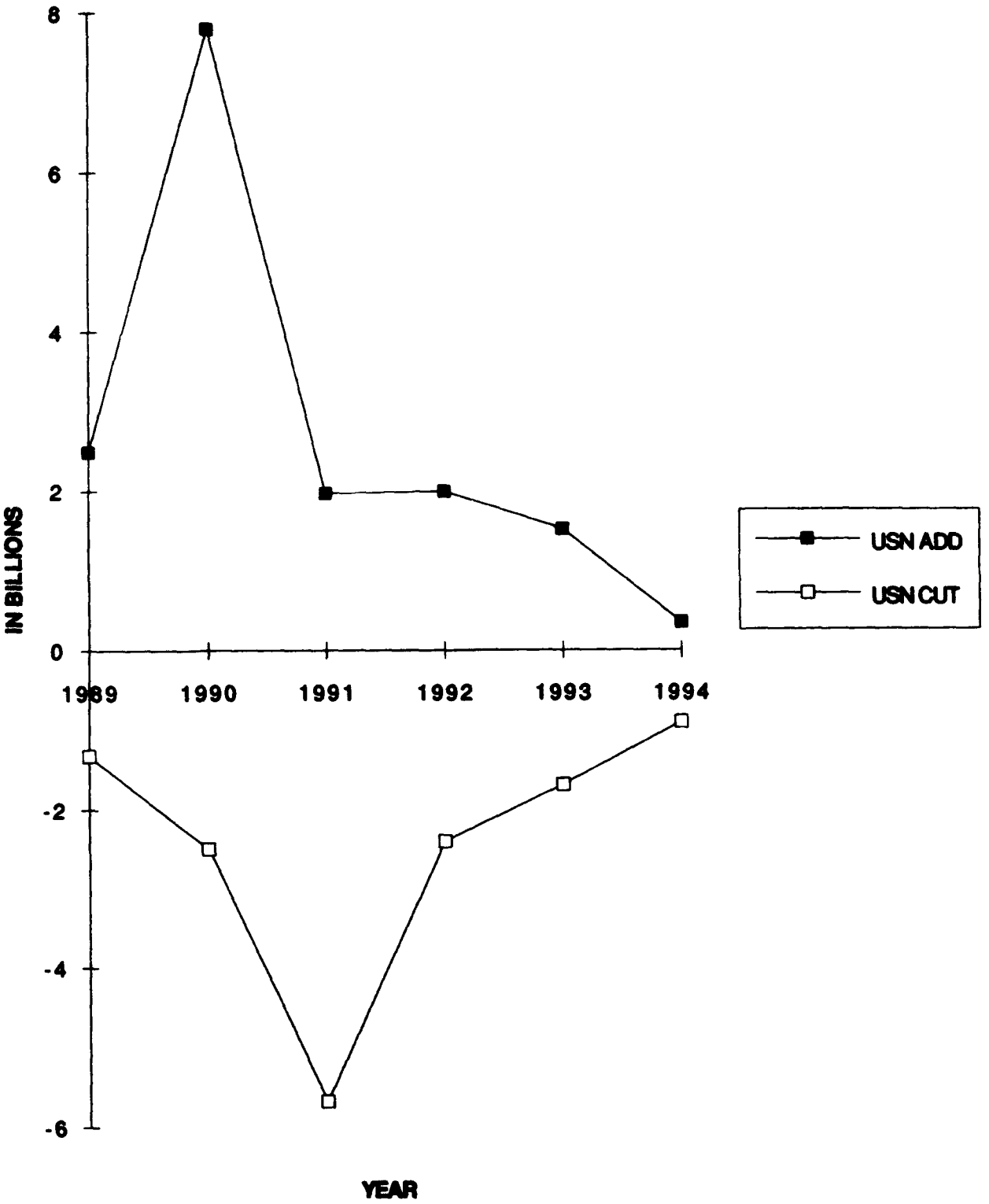

Figure 14. Dollar Value of Changes to Navy Appropriations Request (Procurement)

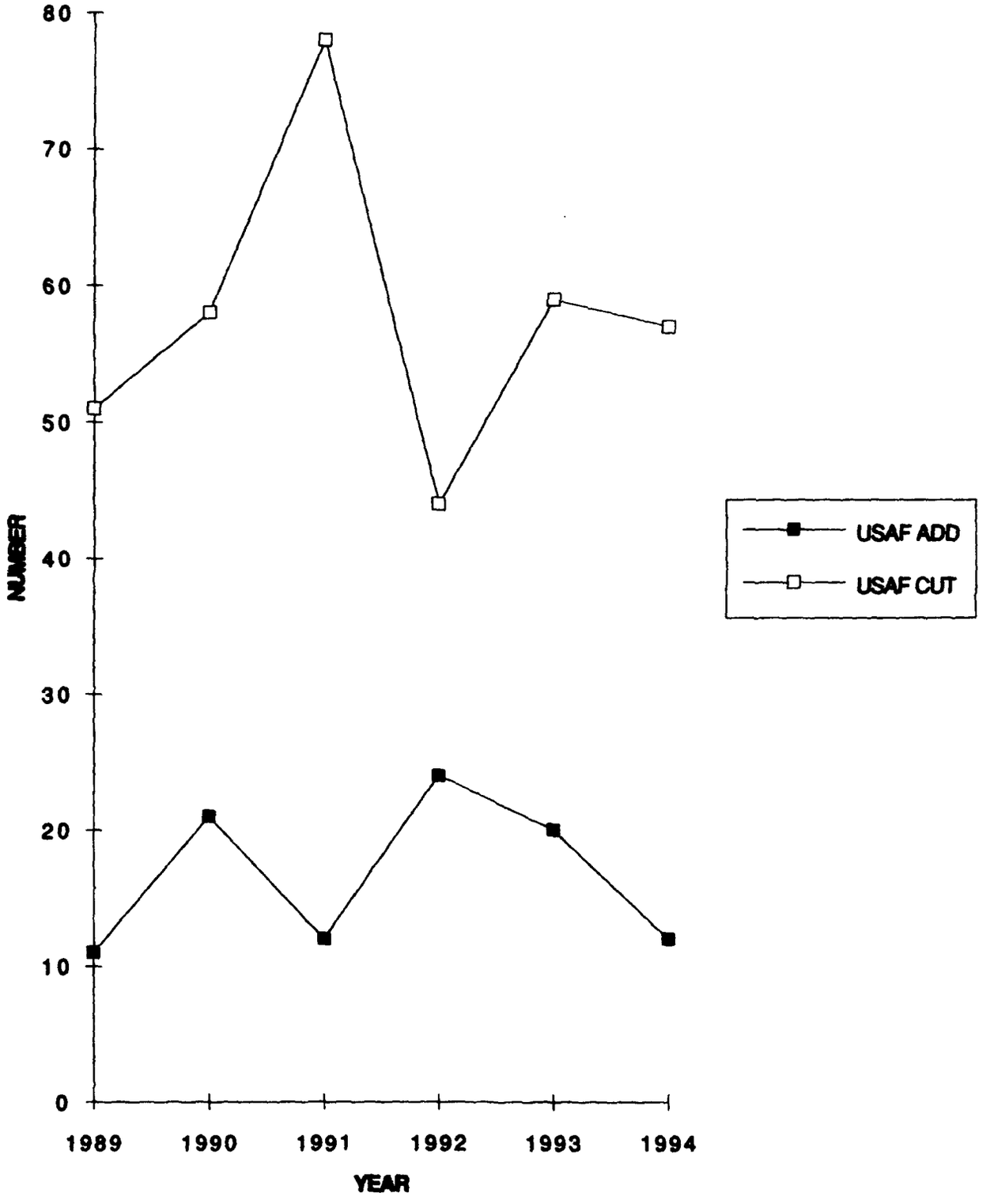

Figure 15. Air Force Appropriations Line-Item Changes (Procurement)

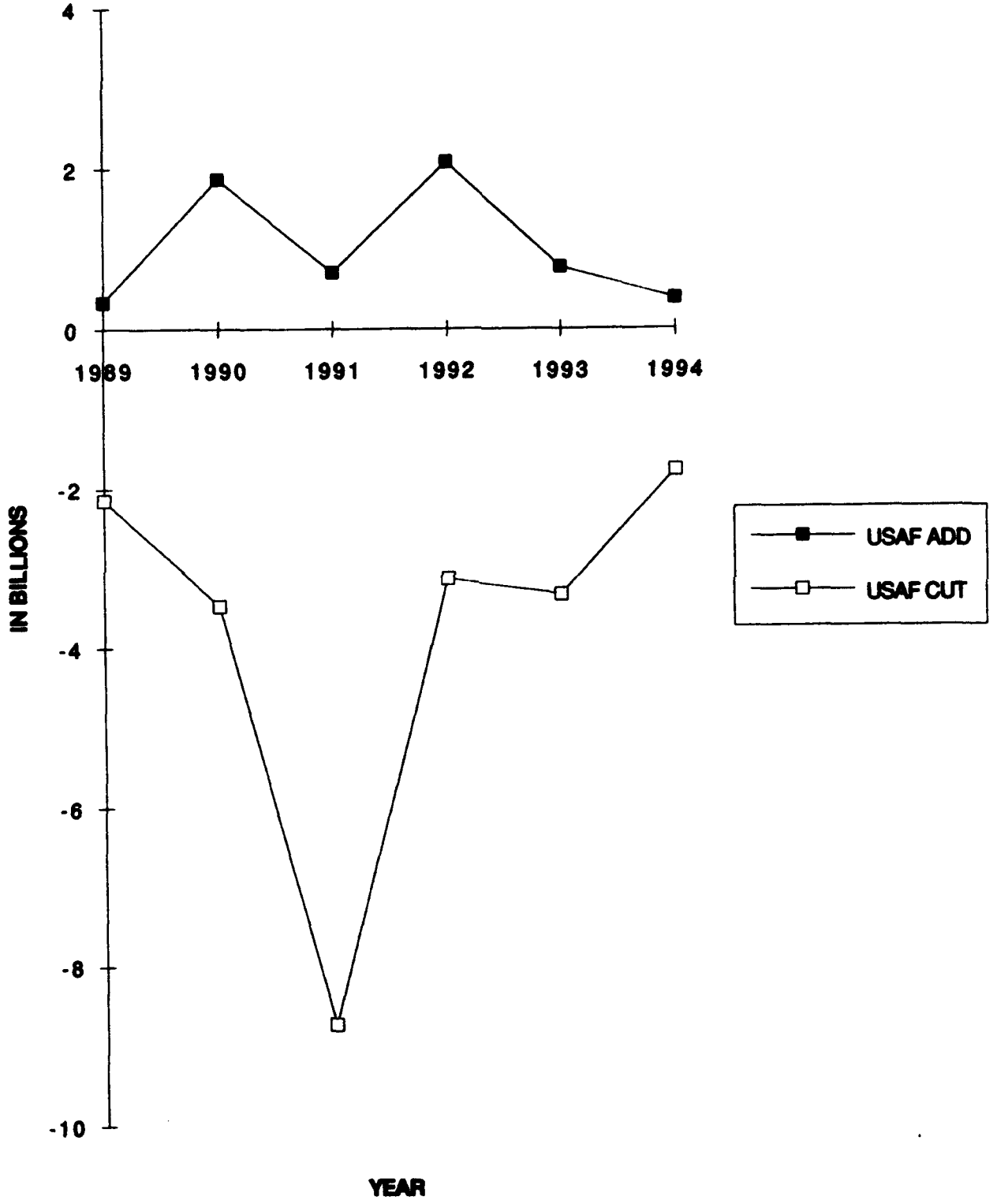

Figure 16. Dollar Value of Changes to Air Force Appropriations Request (Procurement)

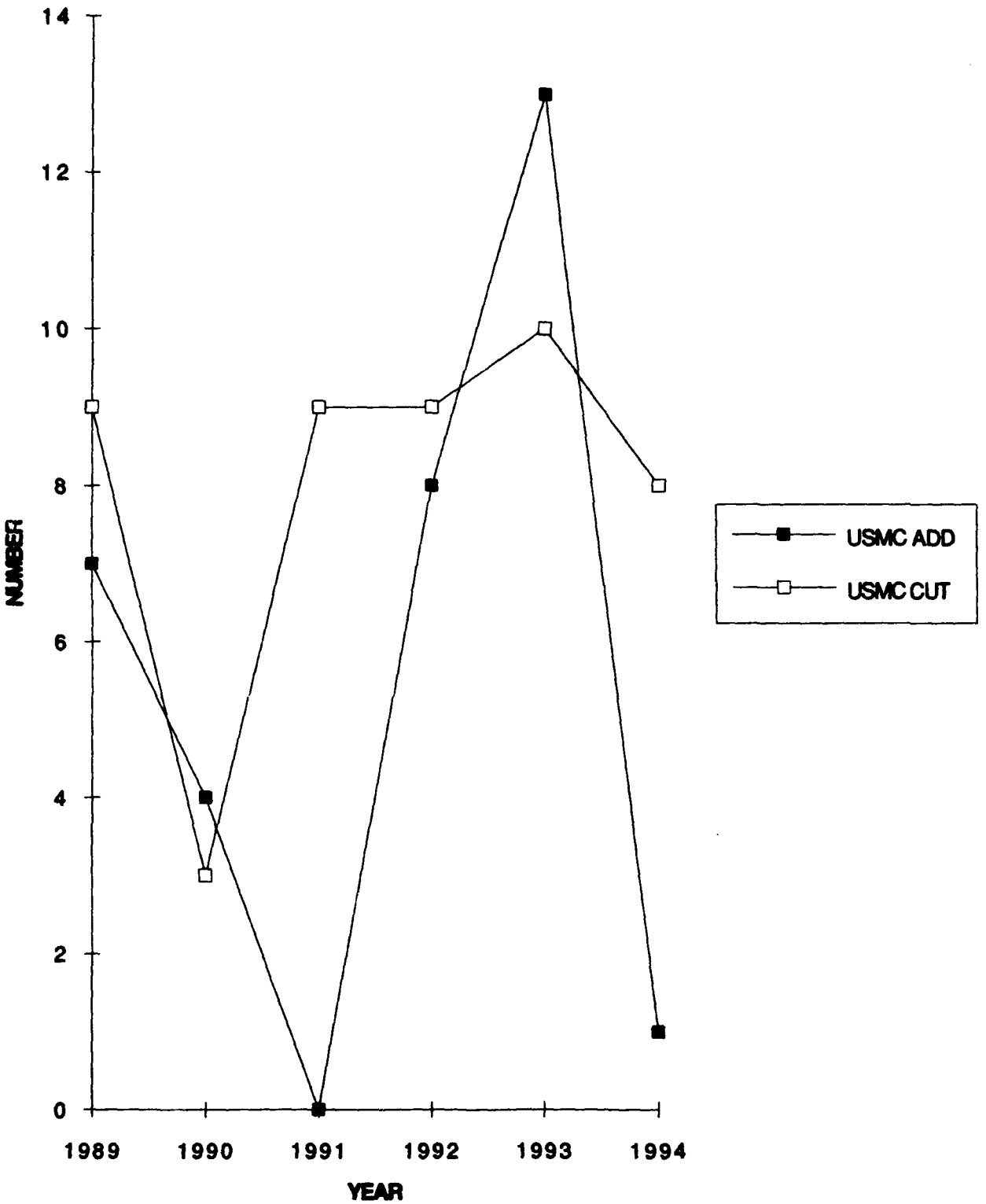

Figure 17. Marines Appropriations Line-Item Changes (Procurement)

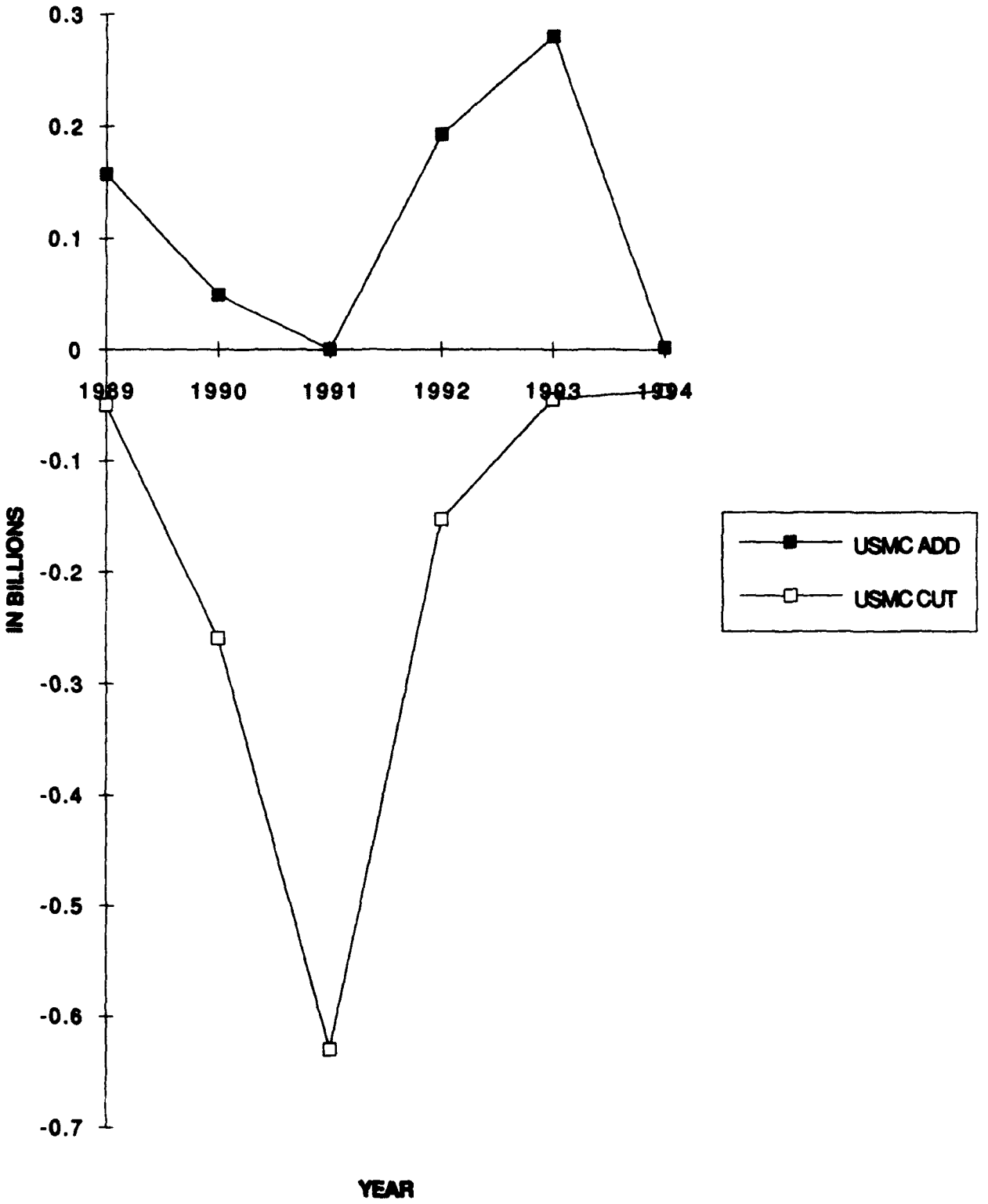

Figure 18. Dollar Value of Changes to Marines Appropriations Request (Procurement)

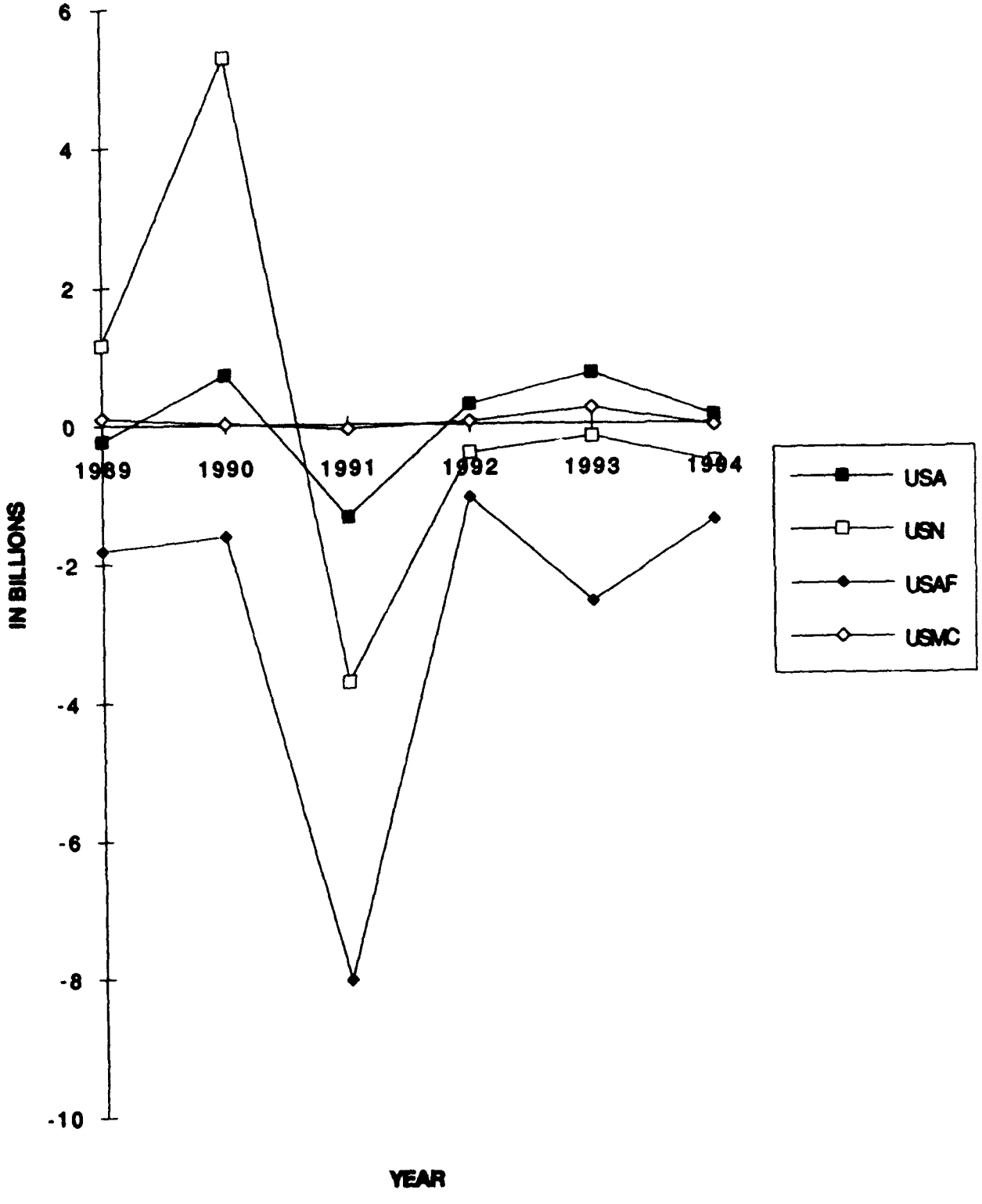

Figure 19. Net Dollar Effect of Procurement Line-Item Changes by Service

TABLE IV MEANS DIFFERENTIATION OF PROCUREMENT LINE-ITEM CHANGES

HOUSE APPROPRIATIONS COMMITTEE

	ACFT	WEAPS	SHIPS	VEHS	AMMO	OTHR
1989	0.206	-0.110	0.035	0.031	-0.261	0.772
1990	-0.109	-0.114	0.171	-0.127	0.082	-0.070
1991	-0.203	-0.146	-0.134	-0.324	0.365	0.146
1992	0.035	0.867	0.349	0.078	0.122	0.110
1993	0.148	1.384	-0.110	-0.215	0.187	0.005
1994	0.444	0.116	-0.093	-0.143	0.584	-0.180

SENATE APPROPRIATIONS COMMITTEE

	ACFT	WEAPS	SHIPS	VEHS	AMMO	OTHR
1989	0.089	-0.083	-0.130	0.573	-0.297	-0.168
1990	-0.071	-0.130	-0.110	-0.232	-0.180	-0.122
1991	-0.284	0.288	-0.267	-0.144	0.445	-0.223
1992	-0.015	0.754	-0.098	-0.009	-0.065	-0.082
1993	0.142	1.180	-0.280	-0.223	-0.149	-0.036
1994	-0.098	0.064	-0.420	-0.121	-0.260	-0.310

CONFERENCE

	ACFT	WEAPS	SHIPS	VEHS	AMMO	OTHR
1989	0.218	0.077	-0.095	0.636	-0.182	0.590
1990	-0.052	-0.071	-0.095	-0.168	-0.052	-0.080
1991	-0.327	0.192	-0.144	-0.341	0.624	0.130
1992	0.052	0.774	0.079	-0.006	-0.002	0.015
1993	0.211	1.592	-0.127	1.129	-0.072	0.132
1994	-0.003	0.113	-0.223	-0.083	0.565	-0.297

SOURCE: DoD Financial Accounting Documents for FYs 1989 to 1994

procurement program areas are significantly affect in a particular single year, there are no specific program categories that are generally affected. The mean tables also indicate that there is no specific pattern of change within the final conference mark. These results support the hypothesis that there are no particular programs within the procurement account that are exceptionally interesting to appropriators. Although not shown, p values calculated in conjunction with the means tables all indicated an insignificant level of association.

B. RESULTS OF THE SINGLE YEAR ANALYSIS

The broad trends found in the defense appropriations account are indicative of how other accounts are treated and how the authorization committees act. The key findings in the study of the 1994 budget are that the interrelationship between committees is generally more significant than between chambers and that the total percent change to the budget request is indicative of specific change rates within the operations, procurement, and research accounts but not to changes within construction and housing accounts. The findings are suggestive that Congress generally micromanages the defense budget to fulfill its legitimate policy oversight responsibilities, even in areas where potentially significant direct public incentives could be a powerful lure for parochialism.

The initial assessment of Congressional micromanagement in the FY 1994 budget process paralleled the analyses of multi-year budgeteering. The treatment of the defense budget request was broken down by committee, service, and program components to find distinct operating patterns. Percent change and changes from expected were analyzed first.

The study then examined dollar value changes by average, addition or cut, and net assessments with respect to the component breakdowns. Tables V and VI provide the percent of line-items changed and changes from expected by program and service. Figures 20 and 21 provide this information graphically.

This data indicates that procurement programs are adjusted less than expected, research and personnel programs are adjusted about as much as expected, and that operations and construction programs are adjusted more than expected. No specific patterns of changes are measured through this examination but a pattern does seem to be indicated that will be investigated by more powerful statistical methods. Figures 22 through 27 provide the dollar value breakdown of legislative line-item changes and show no clear patterns in Congressional interest. Again more cogent means will be employed to verify the independence between committees and program or service components in the next phase of analysis.

Although the procurement account is changed the least among all accounts the relationship of the procurement account to the total number of line-item changes and to the operations and research accounts is strong. A simple linear regression holding total percent change by committee as the independent variable against percent change in other committees yielded strong measures of correlation to operations, procurement, and research. Table VII shows the calculated coefficients of determination (R^2), as noted before a test value above 0.9 indicates a strong (linear) relationship. The regression analysis was used instead of a correlation test because the unit measures of all the test variables are the same and because the regression analysis is more meaningful for small

TABLE V VARIATIONS IN CONGRESSIONAL ACTION BY PROGRAM

HOUSE COMMITTEES

	PERS	O & M		PROCMENT		RDT & E		CONST		HOUSING	
	APP	ASC	APP	ASC	APP	ASC	APP	ASC	APP	ASC	APP
%	26.8	23.5	39.7	10.8	18.0	18.0	35.6	38.0	32.9	12.0	12.0
	18	84	106	128	214	180	271	137	119	9	9
C	18	70	74	233	322	150	207	71	98	15	20
	49	274	161	1059	973	582	491	224	242	66	66
N	49	288	195	954	866	612	556	290	264	60	55

SENATE COMMITTEES

	PERS	O & M		PROCMENT		RDT & E		CONST		HOUSING	
	APP	ASC	APP	ASC	APP	ASC	APP	ASC	APP	ASC	APP
%	74.6	18.7	55.1	8.6	16.1	17.8	32.9	34.9	49.6	9.3	10.7
	50	67	147	102	191	136	251	126	179	7	8
C	20	57	81	190	361	122	232	58	110	12	23
	17	291	120	1085	966	626	511	235	182	68	67
N	47	301	186	997	826	640	530	303	251	63	52

FINAL CONFERENCE

	PERS	O & M		PROCMENT		RDT & E		CONST		HOUSING	
	APP	ASC	APP	ASC	APP	ASC	APP	ASC	APP	ASC	APP
%	61.2	31.6	54.3	12.1	22.0	26.2	44.0	49.9	57.3	16.0	17.3
	41	113	145	144	261	200	335	180	207	12	13
C	25	85	98	281	437	180	281	85	133	18	28
	26	245	122	1043	926	562	427	181	154	63	62
N	42	273	169	906	750	582	481	276	228	57	47

Tables show percent of observed change from total by program and number of observed line-item changes shown over number of expected line-item changes by program.

SOURCE: DoD Program Budgets (P-1,R-1,C-1) and Financial Accounting Documents for FY 1994.

TABLE VI VARIATIONS IN CONGRESSIONAL ACTION BY SERVICE

HOUSE COMMITTEES

	ARMY		NAVY		AIR FORCE		MARINES		DoD WIDE	
	ASC	APP	ASC	APP	ASC	APP	ASC	APP	ASC	APP
%	25.9	33.0	15.3	21.5	16.6	14.6	29.8	46.6	19.6	27.4
	178	224	119	165	132	180	9	22	101	149
C	135	186	153	210	156	216	29	41	66	88
	510	454	661	602	665	608	141	129	238	171
N	553	492	627	557	641	572	121	110	273	232

SENATE COMMITTEES

	ARMY		NAVY		AIR FORCE		MARINES		DoD WIDE	
	ASC	APP	ASC	APP	ASC	APP	ASC	APP	ASC	APP
%	18.5	33.8	9.7	24.4	15.4	34.4	8.7	19.9	29.8	34.7
	127	229	76	187	123	271	13	30	101	111
C	110	208	125	235	127	241	24	46	54	98
	561	449	704	580	674	517	137	121	238	209
N	578	470	655	532	670	547	126	105	285	222

FINAL CONFERENCE

	ARMY		NAVY		AIR FORCE		MARINES		DoD WIDE	
	ASC	APP	ASC	APP	ASC	APP	ASC	APP	ASC	APP
%	28.1	44.4	15.8	29.2	22.8	36.0	8.0	19.9	41.6	51.9
	193	301	123	224	182	284	12	30	141	166
C	163	252	184	285	188	293	36	56	80	119
	495	377	657	543	615	504	138	121	198	154
N	525	426	596	482	609	495	114	95	259	201

Tables show percent of observed change from total by service and number of observed line-item changes shown over number of expected line-item changes by service.

SOURCE: DoD Program Budgets (P-1,R-1,C-1) and Financial Accounting Document for FY 1994.

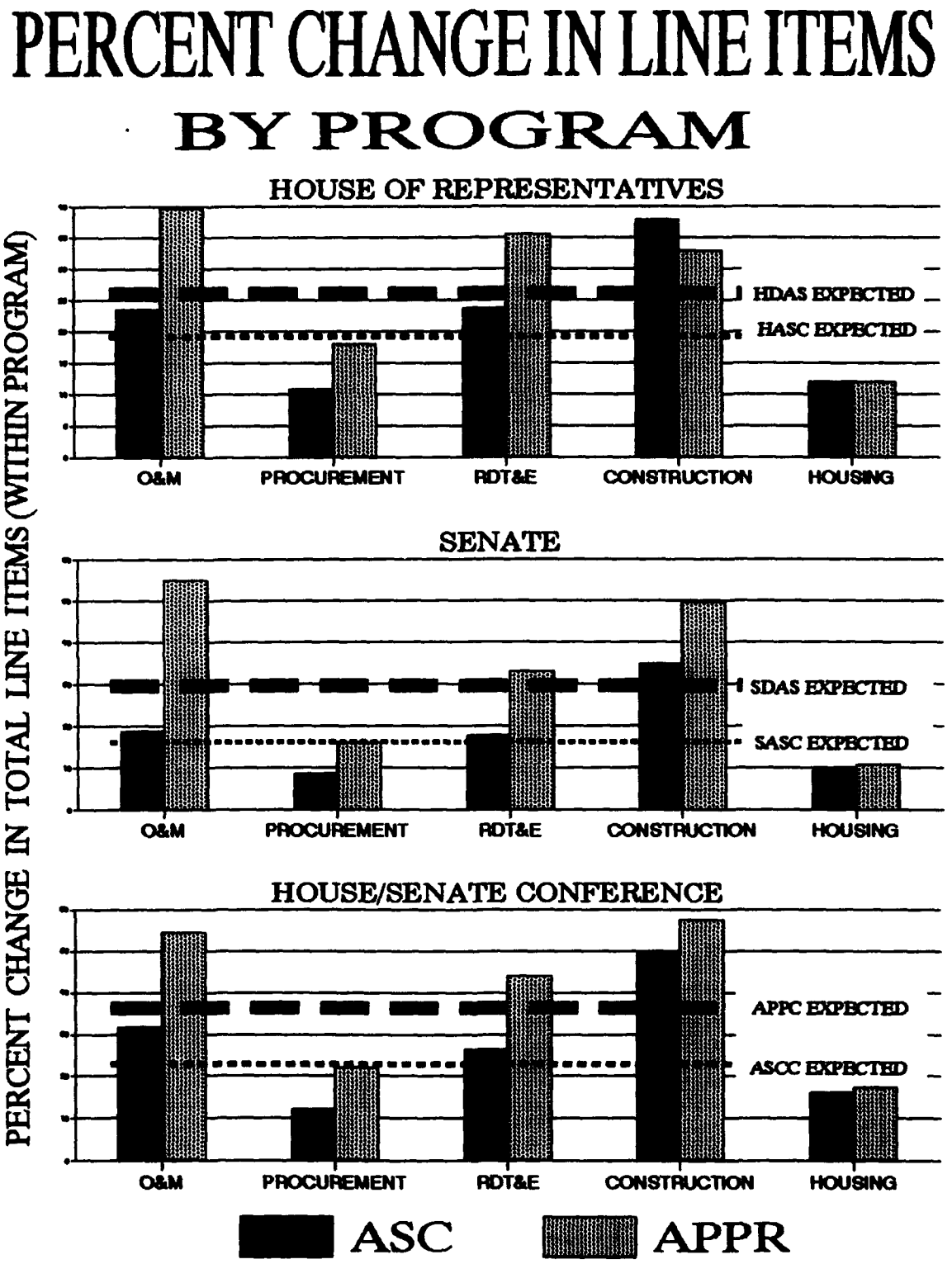

Figure 20. Percent of FY 94 Budget Request Line-Items Changed (by Program)

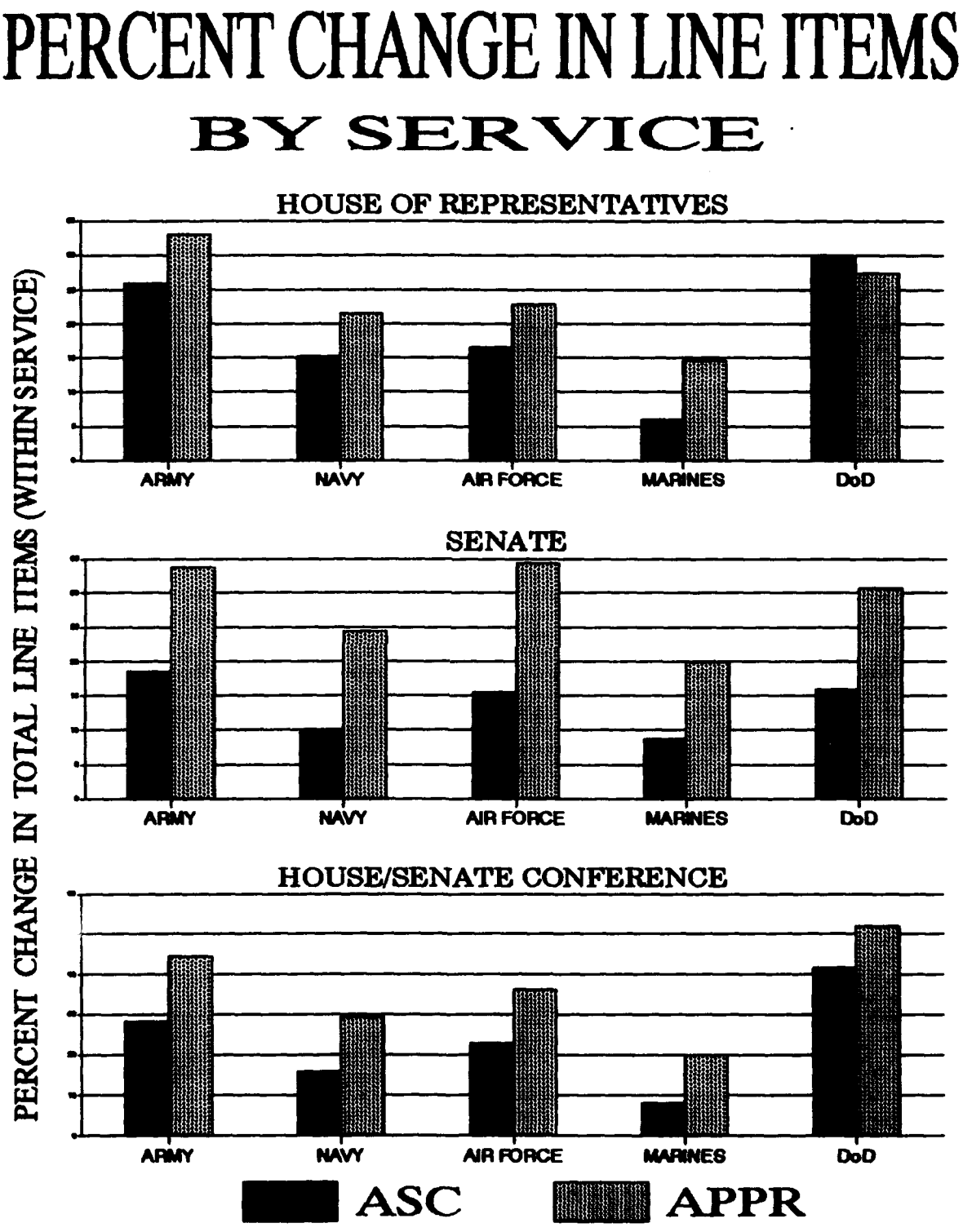

Figure 21. Percent of FY 94 Budget Request Line-Items Changed (by Service)

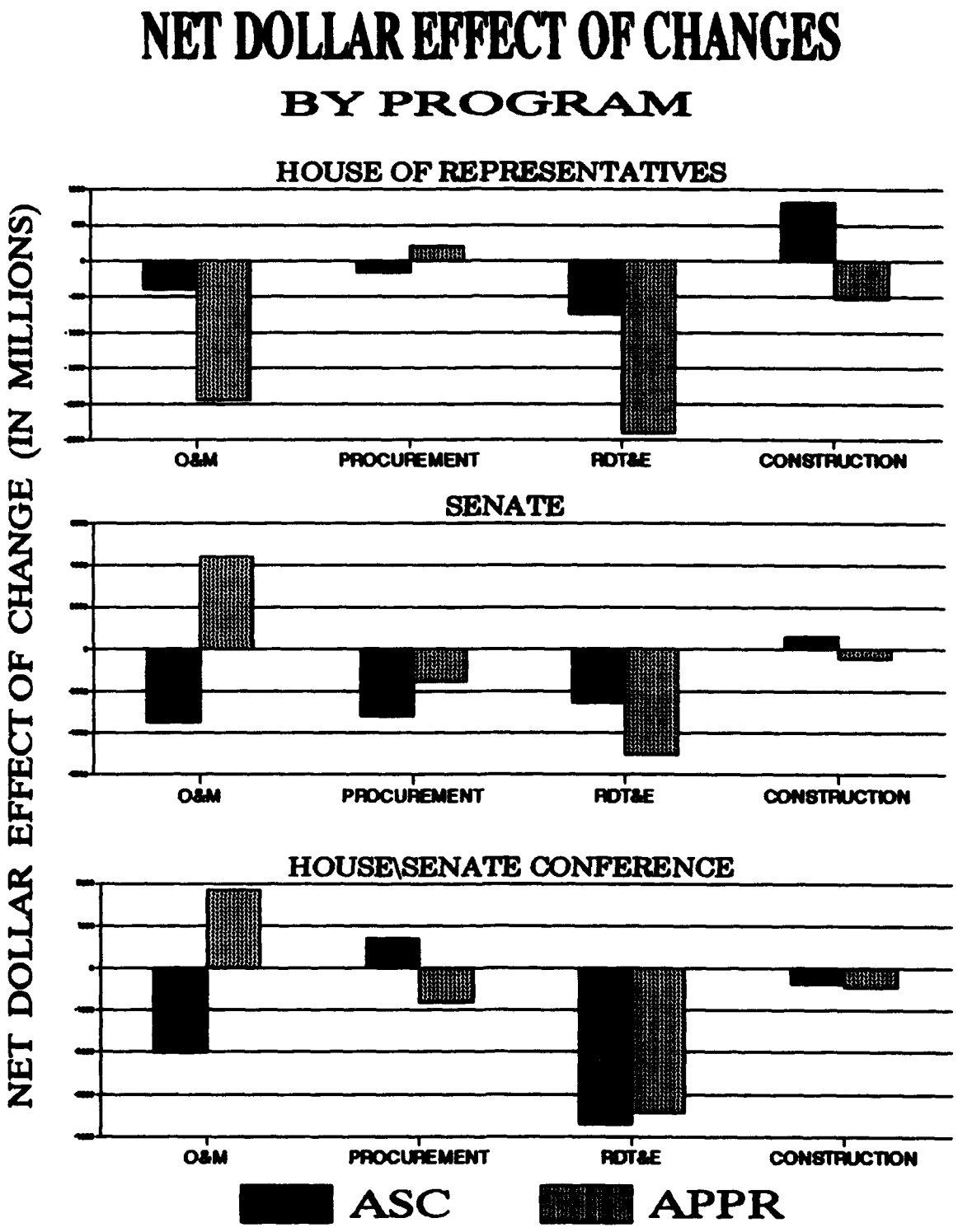

Figure 22. Net Dollar Effect of Changes to FY 94 Budget Request (by Program)

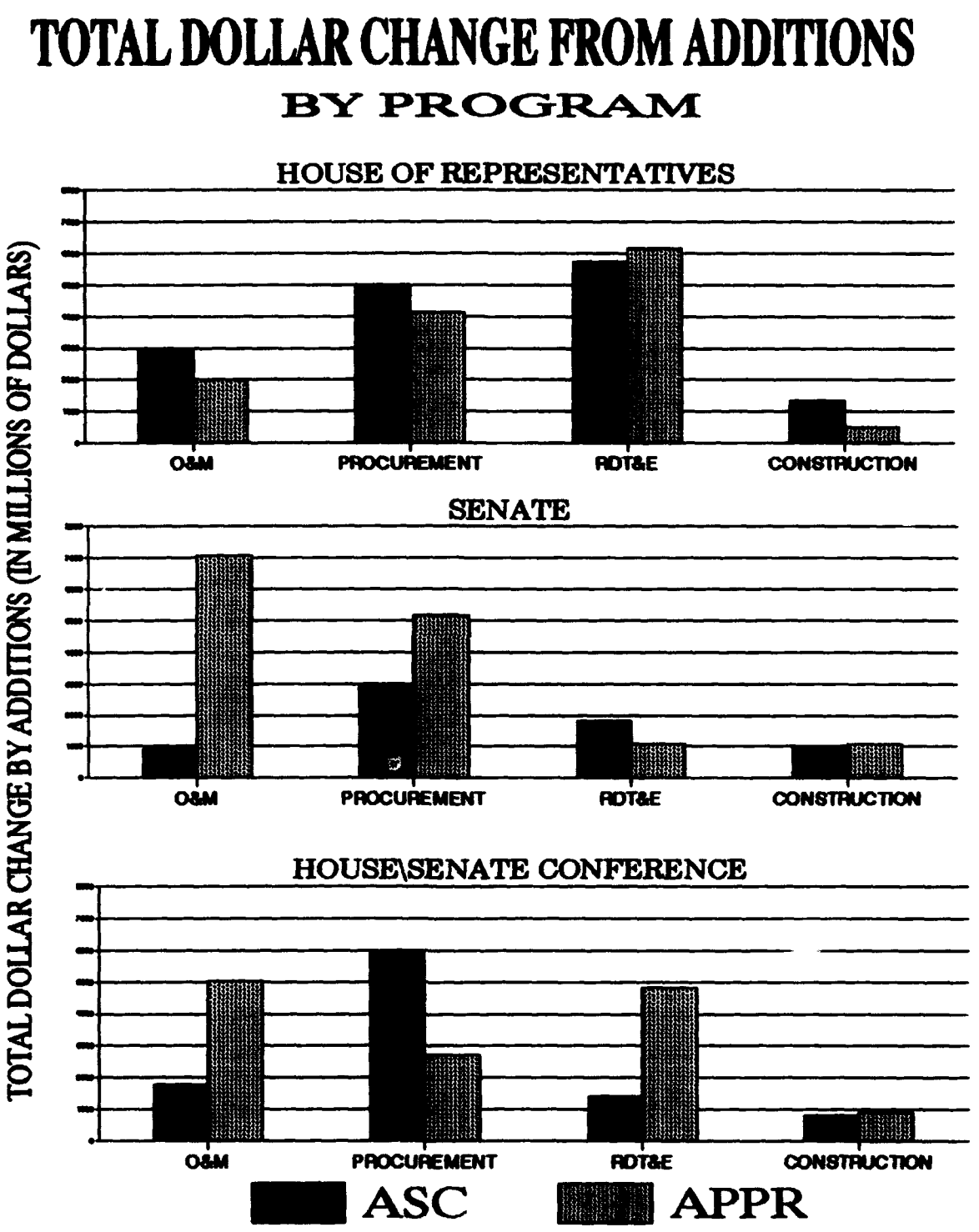

Figure 23. Total Changes by Additions to FY 94 Budget Request (by Program)

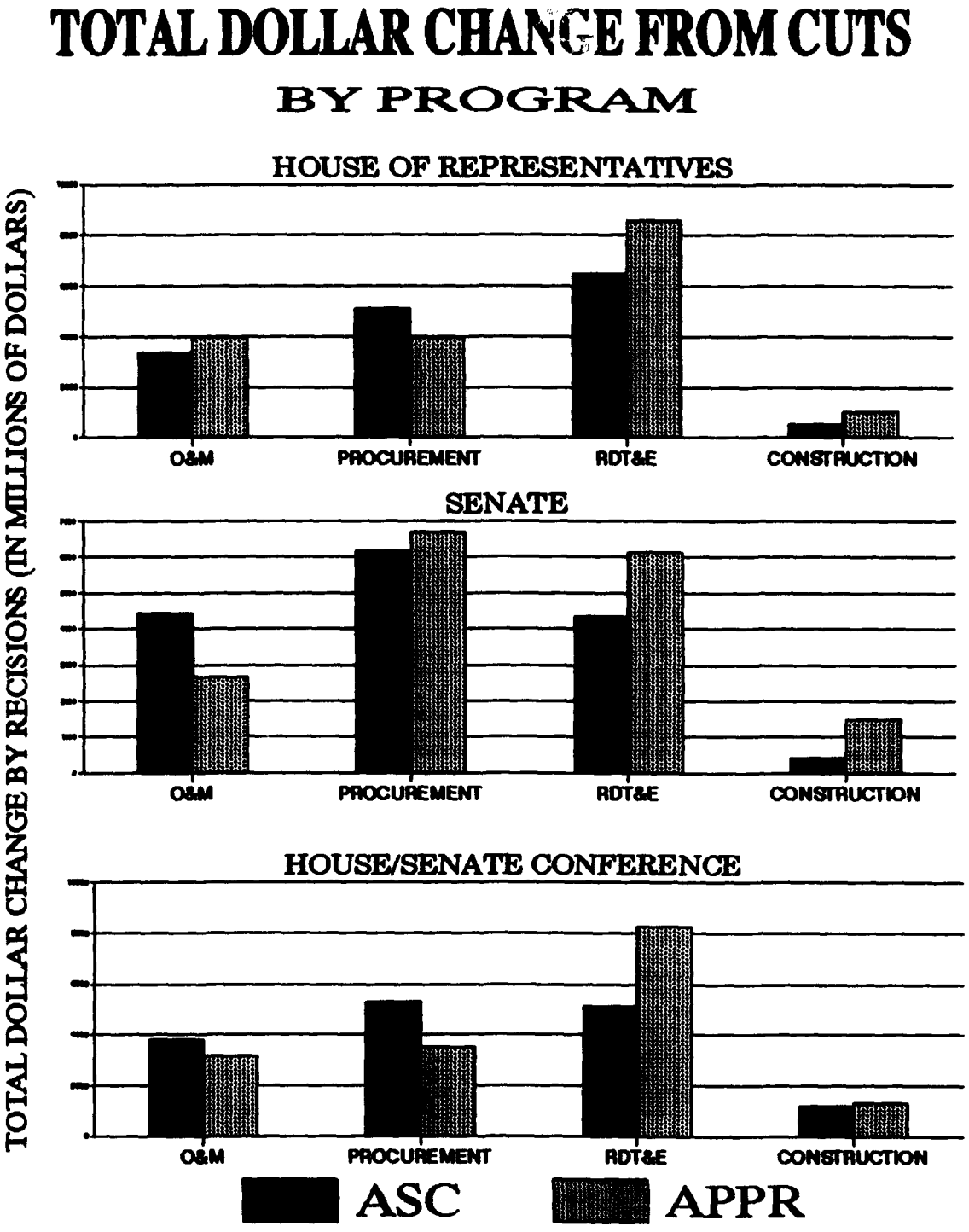

Figure 24. Total Changes by Recessions to FY 94 Budget Request (by Program)

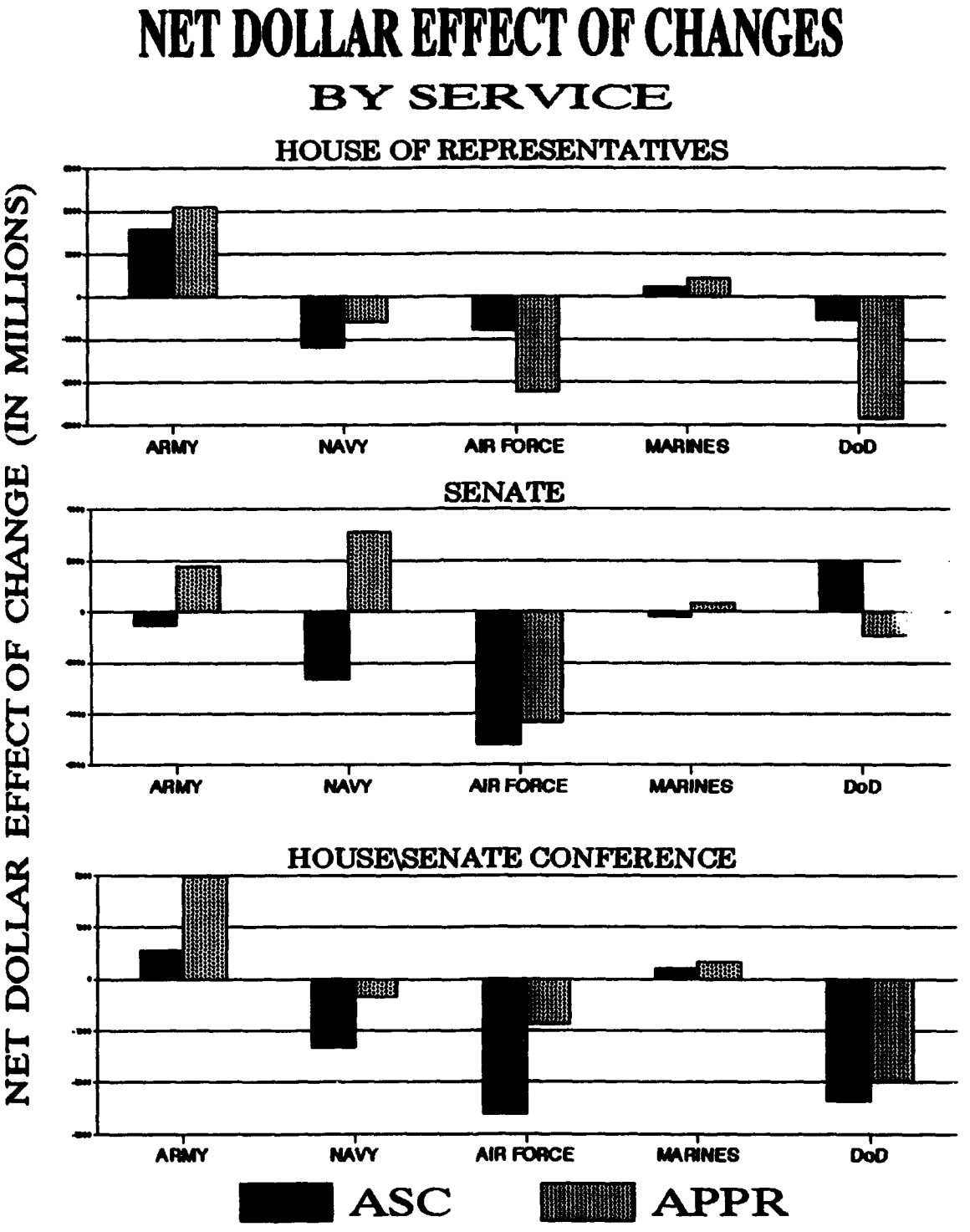

Figure 25. Net Dollar Effect of Changes to FY 94 Budget Request (by Service)

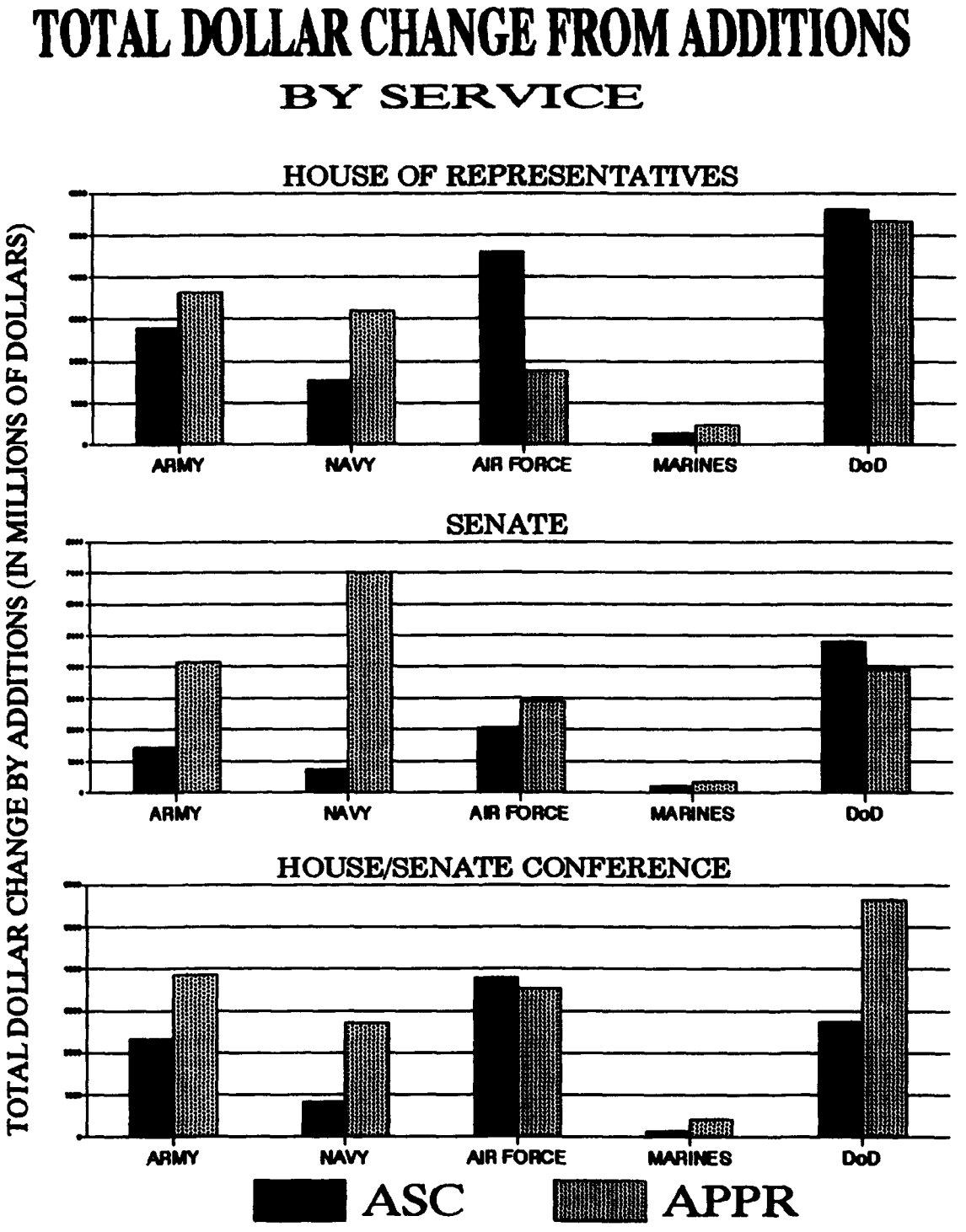

Figure 26. Total Changes by Additions to FY 94 Budget Request (by Service)

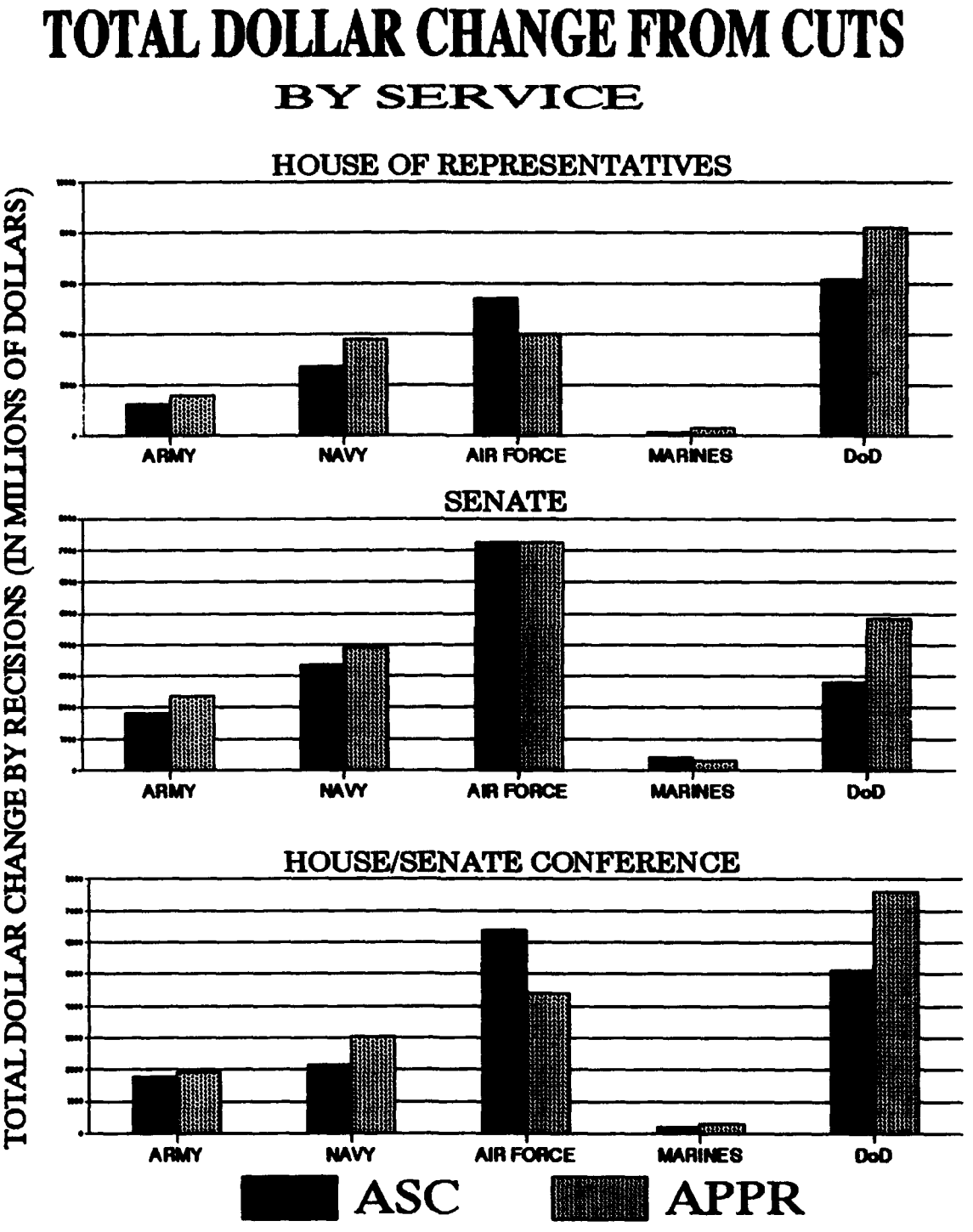

Figure 27. Total Changes by Recessions to FY 94 Budget Request (by Service)

TABLE VII REGRESSION ASSOCIATION OF PERCENT CHANGE

ASSOCIATION OF PERCENT CHANGE BY PROGRAM TO TOTAL CHANGE					
	O&M	PRO	RDTE	CON	HSG
COEFF OF DETERMINATION	.9085	.9195	.9426	.5399	.3713
ASSOCIATION OF PERCENT CHANGE BY SERVICE TO TOTAL CHANGE					
	ARMY	NAVY	AIRF	MARN	DoD
COEFF OF DETERMINATION	.9674	.9719	.9022	.7872	.6349

SOURCE: DoD Program Budgets (P-1,R-1,C-1) and Financial Accounting Documents for FY 1994.

test samples. A similar test along service lines indicated that there is also a strong relationship between the various committee treatments of changes to service budgets but not to defense-wide requests. The actual spending patterns did not show strong patterns of association in either program or service shares as shown by Table VIII and IX.

When considering change patterns it is clear from the contingency tables that procurement is adjusted less often than other accounts. Similarly it is explicit that operations and construction accounts are adjusted more frequently than other accounts. The significant difference between the operations account and others is that it is not presented in a programmed format when the budget goes to Congress, rather it is submitted as a collection of broad categories with virtually no elem .ntal breakdown. Congress generates line-items when it breaks the account down into a more practical format. There is no prevailing pattern among the committees of adding or cutting the operations budget through those changes (FY 1994 Authorizations reduced the O&M

TABLE VIII CORRELATION ASSOCIATION OF LINE-ITEM CHANGES

ASSOCIATION OF COMMITTEE CHANGES TO FINAL CONFERENCE CHANGE

	HASC	HDAS	SASC	SDAS
CORRELATION COEFFICIENT	.6531	.7594	.3986	.2768

ASSOCIATION OF HOUSE CHANGES TO SENATE CHANGES

	HASC to SASC	HDAS to SDAS
CORRELATION COEFFICIENT	.2311	.2578

ASSOCIATION OF FINAL CONFERENCE CHANGES

	ASC to APPR	APPR > ASC
CORRELATION COEFFICIENT	.1816	.1600

SOURCE: DoD Financial Accounting Document for FY 1994

TABLE IX REGESSION ASSOCIATION OF DOLLAR VALUE CHANGE

PROGRAM DIFFERENTIATION
ASSOCIATION OF COMMITTEE CHANGES TO FINAL CONFERENCE CHANGE

	HASC	HDAS	SASC	SDAS
per AVG of $ CHANGES	.410	.442	.129	.994
per $ CHANGE BY ADDS	.473	.996	.964	.341
per $ CHANGE BY CUTS	.150	.584	.605	.126

SERVICE DIFFERENTIATION
ASSOCIATION OF COMMITTEE CHANGES TO FINAL CONFERENCE CHANGE

	HASC	HDAS	SASC	SDAS
per AVG of $ CHANGES	.839	.952	.037	.293
per $ CHANGE BY ADDS	.656	.978	.629	.554
per $ CHANGE BY CUTS	.029	.860	.436	.864

SOURCE: DoD Financial Accounting Document for FY 1994

budget, FY 1994 Appropriations increased it). The military construction budget potentially has the greatest parochial gain because the changes there immediately and directly effect constituent interests. In fact there appears to be a great deal of activity above expected in the construction accounts. However, this year is anomalous within that account because the services submitted budgets not accounting for BRAC closures and so required Congress to act to rescind funds for projects requested at bases that are soon to be closed. This explains some of the additional line-items and negative adjustments to this account in FY 94 (though the bulk of the recessions came from cutting support for overseas bases). The area of base closure is one where Congress has shown that it knows its own liabilities and can act above parochial interests. Christopher Derring summarized the process whereby the House and Senate...

> successfully joined forces to create base–closing legislation (in 1988)...(the independent commission appointed by the secretary of defense) recommended the closure of 86 bases and partial closure of five others. The recommendation was endorsed by the defense secretary and by all but four members of the House committee. A resolution to reject the package, that is, to keep the bases open, was then defeated on the House floor. While the 1988 law provided for only a single round of base closings, the 1991 defense authorization bill provided for a slightly revised commission process of three more rounds of cuts-in 1991, 1993, and 1995. The base–closing procedure is essentially a means for the committees and for Congress to make a decision in the public's interest that would not otherwise be forthcoming. Members affected by the cuts are able to engage in the necessary symbolic opposition but the packages are of sufficient size to sustain protest votes against them. Although the initiative has returned to the Pentagon, since the defense secretary promulgates the initial list, the commission shields members by its endorsement, allows for member input, and the all–or–nothing procedure prevents serial consideration of each of the proposed closings. (Derring, 1993, 179-180)

This is a clear instance where, although the services provided Congress the opportunity to easily legislate parochial interests, both the House and Senate chose to observe the higher goal of fiscal responsibility. The statutory nature of the construction account

requires that each project (program element and sub-element) must be specifically authorized and appropriated to execute funding. Therefore each project must specifically be rescinded to stop funding, in an aggregated context the process would be counted against Congress as micromanagement of defense department budgeting.

Among the four important defense budgeting committees, it is clear that each committee acts independently of one another. A correlation of committee action based on line-item dollar value changes over the whole budget indicated only a weak correlation between the Authorization committees and a separate weak correlation between the Appropriations committees and conference mark up. The specific correlation coefficients are shown in Table VIII. A correlation study was used in lieu of regression analysis because of the large sample size and significant difference in the magnitude of dollar value changes throughout the budget (unit valuation is irrelevant to correlation studies). There is also only a weak correlation between the Authorization bill and Appropriations bill. The Appropriation's Defense Subcommittees generally do look at line-items changed by the Armed Services Committees and stay within authorized limits of those line-items. In FY 94, appropriations exceeded authorizations in 16% of all line-items, this included both exceeding dollar changes to authorization changes and increasing funding to line-items not considered by the Armed Services Committee's Final Bill. The Appropriations Subcommittee evaluates and changes a significant number of additional line-items not even considered during authorization's mark ups.

V. CONCLUSION

The objective of this thesis was to describe the patterns of Congressional Committee line-item changes on the defense budget. The study conducted included empirical analyses of appropriations committee changes to ›curement budget requests from FY 1989–1994 and a cross sectional analysis of authorization and appropriations changes to the FY 1994 budget. The principle findings within the examination of annual procurement appropriations indicate that legislative line-item micromanagement is both enduring and consistent. Congress regularly changes from 20% to 23% of the line-items submitted each year in the president's budget request. When measured in billions of dollars the change has not exceeded 27% of the total, even when there was a high degree of legislative dissatisfaction with the budget proposal. An evaluation of the net financial effect on the Congressional changes would conclude that the impact is slight in comparison with overall procurement spending; the net dollar change in funding for all the years studied is shown in Figure 28. Reductions of $1.71 billion in FY 1992, $1.96 billion in FY 1993, and $1.8 billion dollars in $1994 are relatively small when compared to procurement budgets of $62 billion, $54.8 billion and $44.3 billion dollars for each of those respective years. Of course, for particular programs, such funding changes can have a decisive impact.

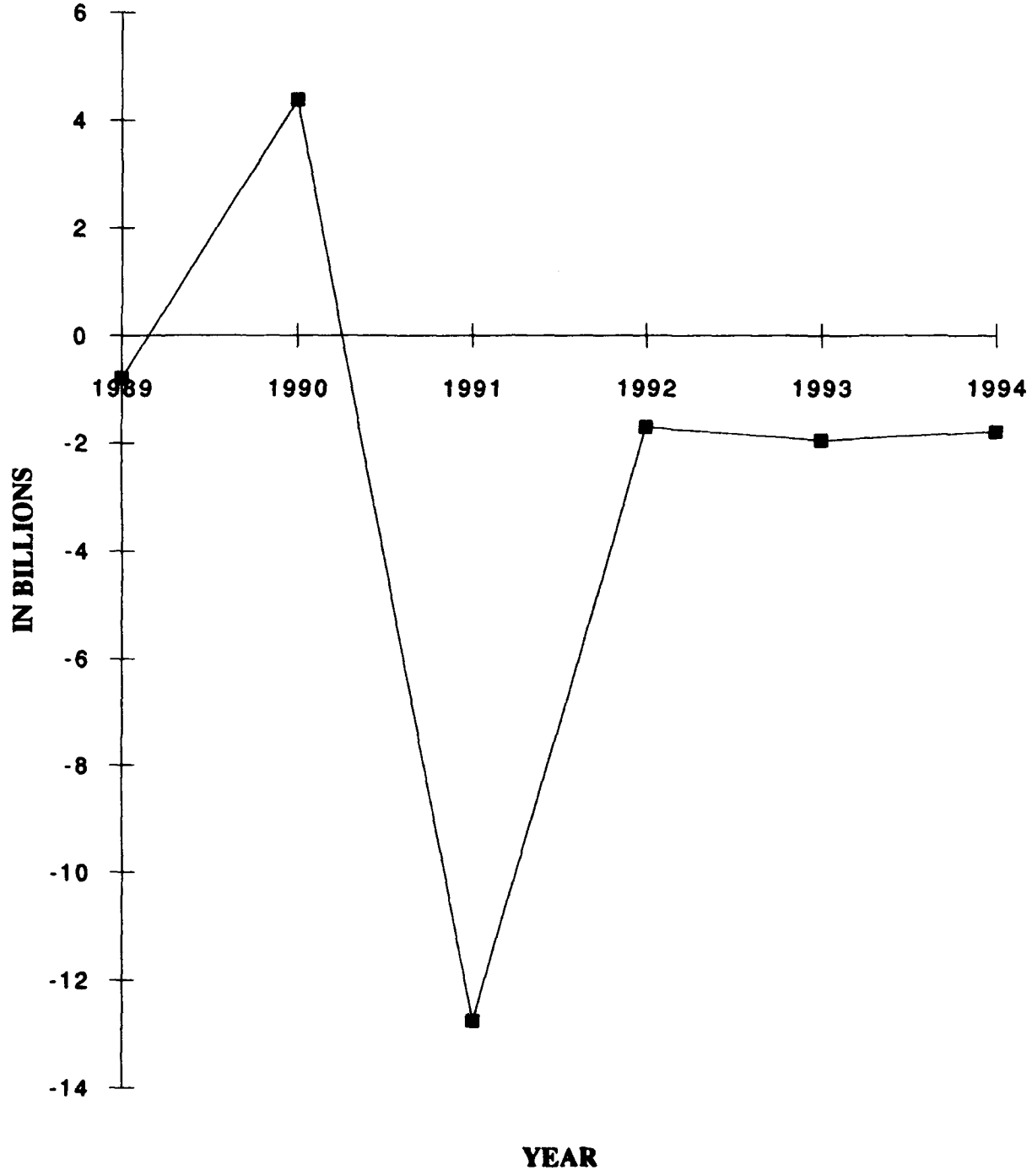

Figure 28. Net Dollar Effect of Annual Changes to DoD Budget Request (Procurement)

The examination of specific components suggested that there are no favorite sons among the program elements within the procurement account (or any other account) and that the services receive roughly equal treatment. Although the House Defense Appropriations Subcommittee stays closer to the average conference mark up the Senate Defense Appropriations Subcommittee brings its mark through more often.

The findings of the cross sectional analysis support the findings that Congress is impartial in its treatment of budget programs or services. In general, the percent total number of line-item changes is proportionally related to the percent change in the budget's operations, procurement, and research accounts. Construction and housing accounts are treated separately, physically and statistically. Within all of these accounts, Congress anticipates a certain level of detail in the budget request. The procurement and research accounts are suitably partitioned and very few line-items are added to either of these sections, the operations account is not so Congress partitions that section itself. When it does so the new line-items it inserts are usually cuts. Congresses treatment of the reserve and guard is similar. Since the end of the Cold war, the defense department has generally sought to reduce reserve and guard funding. Congress, probably reacting along both policy and parochial lines, has been protecting reserve and guard budgets. When it restores funding to these two programs, it reduces funding elsewhere. The resulting micromanagement is counter-productive to the specific program cut in balance but essentially inconsequential to the makeup of the total defense budget.

Within Congress, there is very little cohesion between the various defense oversight committees other than the fact that appropriators do tend to stay within the limits set by

the authorization bill. Legislators agree statistically more often by chamber (HASC to HDAS & SASC to SDAS) than by committee but only marginally so. The levels of association along specific dollar value changes are very weak. Only as a percent of total line-item changes along program and service sections is there any consistent pattern between the various defense oversight committees. Overall, within that pattern, appropriators are much more active and tend to cut from budget requests more frequently than authorizers.

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3.	N51, the Pentagon, Room 4E566 Office of the Chief of Naval Operations Washington, D. C. 20350	1
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5.	RADM Edward D. Sheafer Director, Naval Intelligence (N2) The Pentagon, Room 5C600 Washington, D. C. 20350	1
6.	N-511, The Pentagon, Room 4D563 Office of the Chief of Naval Operations Washington, D. C. 20350	1
7.	Chief of Legislative Affairs Office of the Chief of Naval Operations (N-09L) Pentagon, Room 5C760 Washington, D. C. 20350	1
8.	RADM Michael L. Cramer, USN Director of Intelligence (J2), The Joint Staff Office of the JCS The Pentagon Washington, D.C. 20350	1
9.	CAPT J. Darrah ONI 1 Office of Naval Intelligence 4301 Suitland Road Washington D.C. 20395	1

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